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Vol 4 No 48

THIS WEEK

- ROW OVER SUPERMAN
- AMSTRAD'S NEW PRINTER
- BYTE TALK CODEWORDS
- ST GEMS GO ON TEST

First Spectrum 128s hit the UK

MYSTERY surrounds the arrival in the UK earlier this month of the first bulk delivery of Sinclair's new Spectrum 128 computer.

The consignment of 3000 Spectrum 128 kits manufactured by Samsung in Seoul, South Korea was shipped via Tokyo to MCK Freight, agents acting for Sinclair based in Cottenham, Cambridge.

A spokesman for Sinclair, however, refused to comment on the present whereabouts or final destination of the micros: "I have no knowl-

edge of any such machines", he said.

The computers may be intended to form the basis for a stock-pile of the new models

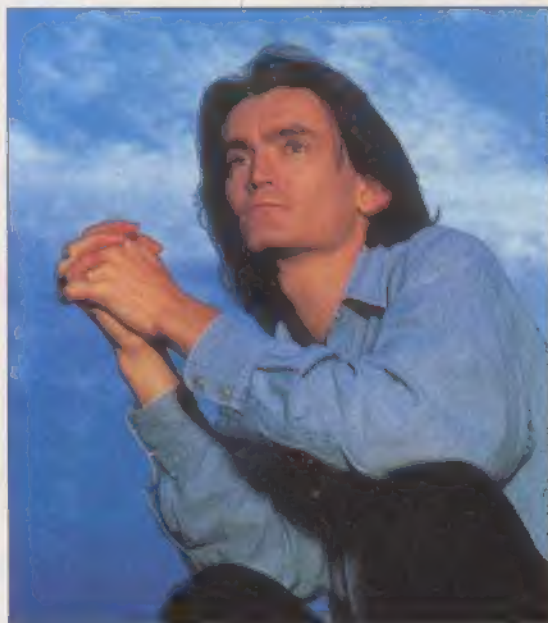
prior to a proposed UK launch early next year. The spokesman admitted a launch in this country early next year

continued on page 4 ▶

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HERE? FIND OUT PAGE 11**



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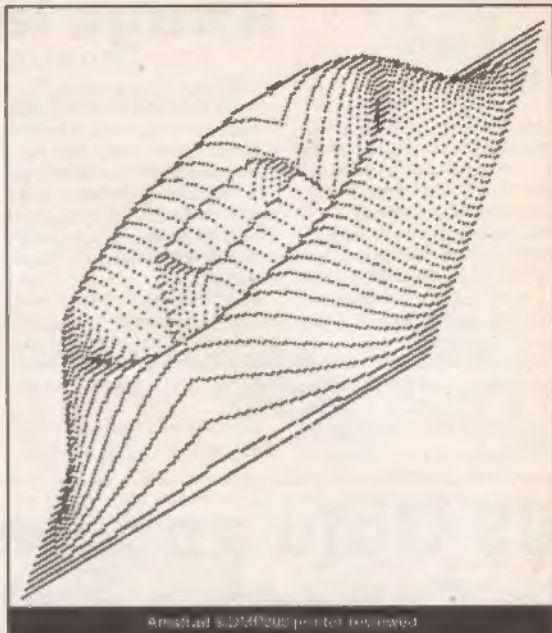
The neverending story with a difference . . . literature from your QL

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EDITORIAL

It will be strangely ironic if, as now seems likely, the Sinclair Spectrum 128 and Commodore Amiga are launched over here in the same month - January next year.

Two more different machines would be hard to imagine. The Spectrum 128 will cost about £150, it is an enhanced version of an already successful design and it offers little that is new. The Amiga is ten times the price, and features a brave exciting design and startling new features.

At first glance it would seem unfair to compare the two. After all, the Spectrum 128 has more in common with Commodore's other micro, the C128; and the Amiga seems more obviously compared with the QL's suggested full 16-bit successor.

The Spectrum 128 (like the C128) is a cul-de-sac. It stretches an

elderly design a little further, yet is constrained by having to maintain software compatibility with the earlier model.

The Amiga is free from any such restrictions. And the Amiga is the future. Not yet at a price we can easily afford, but that will change. Full 16-bit machines are here and the race has begun to see who will set the next home computer standard. Will it be Sinclair, with the new QL? Atari with the 260ST? Commodore with a cut-down Amiga? Or, perhaps even Amstrad with a new and as yet unseen machine?

What is certain is that refining and refining the older designs only buys a short breathing space. Soon the 8-bit micros will be unable to compete with the newer faster models.

When both the Spectrum 128 and Amiga are in the shops that will be plain for all to see.

Editor David Kelly News editor Christina Erskine Features editor Graham Taylor Software editor John Cook Production editor Lynne Constable Editorial secretary Lucinda Leo Advertisement manager Jeff Raggott Advertisement Executive Diane Holyoak Classified executive David Owen Administration Geraldine Smyth Managing editor Duncan Scott Publishing director Jenny Ireland. Published by Sunshine Publications Ltd, 12-13 Little Newport Street, London WC2H 7PP. Tel 01-437 4343 Telex 296275 Typeset by Publishers Reprographics Services Ltd, 4 Roger Street, London WC1. Printed by Greenaway Harrison, Sutton Road, Southend-on-sea, Essex. Distributed by S M Distribution, London SW9. Tel 01-274 9811, Telex 261943 © Sunshine Publications Ltd 1985.

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Mastertronic goes into business

MASTERTRONIC has moved into business software with *Ski Writer*, an American word processor previously owned by Prentice Hall.

However, the company is continuing its budget price policy and *Ski Writer* will cost £14.95 on disc for the Commodore 64 and Apple II, and £13.95 on cassette.

The program is also being enhanced to use the capabilities of the 128. It will be launched at the beginning of January.

Amiga launch date is set

COMMODORE is pushing forward with plans to launch its advanced Amiga micro in the UK next year with the announcement that the machine will be shown formally to the micro trade for the first time in the UK at the *Which Computer?* Show which runs from January 14-17.

The *Which Computer?* Show - a business exhibition open only to the trade - will be the first time Commodore has put the Amiga on its stand.

Commodore's stand at the show will be open to third



party software companies to take space and show programs running on the machine, as Atari did for the launch of the 820ST at the

Personal Computer World Show.

"We are hoping for a strong display from software houses," said Chris West, Commodore UK's software evaluation manager. "We are holding a software developers conference at the beginning of December, and the companies know they must have produced something - even if it's only a few screens - by the time of show to get it on display."

"There will also be some American products, mainly entry level programs, but also things like *Graphicraft*, *Textcraft*, and, I hope, *Musicraft*, plus one or two games, but not too many."

US Gold and Beyond in Superman clash

BEYOND Software and US Gold have been involved in an extraordinary row over publication rights of *Superman*, the Commodore 64 game licensed from US company First Star.

Beyond which was recently the subject of a take over by British Telecom, holds manufacturing and publishing rights for *Superman* in the UK, and US Gold has the corresponding licence for France and Germany.

However last week Beyond heard that US Gold's Europe-

an version of *Superman* had been offered to British distributors for sale in this country.

Last Thursday Beyond sought a High Court injunction against US Gold to stop it from selling *Superman* under the US Gold name in the UK.

However, US Gold's general manager, Tim Chaney, said, "US Gold has not offered to sell *Superman* to a distributor in the UK. Of course, it is possible that another European distributor may have wanted to export it to them".

The dispute has now apparently been settled out of court. "I have a written undertaking from US Gold which says they will not infringe our UK exclusivity to *Superman*," said Bill Delaney, Beyond's managing director.

"We have also agreed that Beyond will be involved in monitoring US Gold's distribution of the game."

"US Gold's version of the game was being offered to distributors over here but nearly all of them refused to take it, I'm happy to say."

Spokeswomen from both distributors Lightning and Microdealer UK confirmed that they had been offered US Gold's *Superman*.

Although US Gold's version is planned for sale through US Gold France and US Gold Germany, the German version had its documentation in both German and English. "The reason for that is to cater for the large contingent of British armed forces in Germany," said Tim Chaney.

Beyond's *Superman* on the Commodore 64 will be priced at £9.95 and available this week.

The company also has versions for the Spectrum and Amstrad in development, which should be available by the end of the year.

First Spectrum 128s hit UK

◀ continued from page 1

was a possibility: "A British version of the Spectrum 128 may be introduced in Spring 1986."

Another possibility is that the Korean-manufactured micros were en route to a destination outside the UK. The Spanish version of the computer is now available in Spain and, though it is being manufactured over there, demand for the new model is expected to be very heavy in the run-up to Christmas.

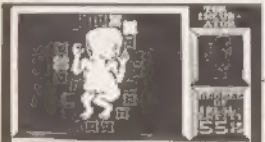
Samsung, which manufactures the 128s, already manufactures the Spectrum Plus and QL for Sinclair for sale in the Far East.

At the time of the Spanish 128's launch Sinclair indicated that it hoped also to begin production in the UK. Following the favourable outcome of negotiations with its major creditors two months ago Sinclair's British manufacturers of the Spectrum Plus and QL - Timex, Thorn EMI and AB Electronics - are thought now to be discussing the possibility of assembling the Spectrum 128.

Commented AB Electronics' chairman Henry Kroch, "We are making the Spectrum Plus again now but we will not necessarily make the 128 - that depends on the outcome of our present negotiations with Sinclair."

Automata's Deus revived

DEUS EX MACHINA, Automata's ill-fated computer 'movie' which featured an audio soundtrack with contributions from Frankie Howerd, Ian Dury and Jon Pertwee



Deus ex Machina

among others, is to be re-launched by Electric Dreams Software.

Despite being voted Computer Game of the Year 1984 by the Computer Trade Association, sales of *Deus* were

extremely low, due to Automata's somewhat fraught relationship with trade distributors.

"It's simply a rerelease, with no additions or modifications to the game," said Electric Dreams' managing director Rod Cousens. "We felt that the program deserved it because of its innovative qualities. But we will market it much more strongly."

Deus ex Machina from Electric Dreams will be produced initially for the Commodore 64 at £9.95, a reduction from its original price of £15. It is due out in the second week of December. The Spectrum version will follow.

American boost for Acorn's BBC micros

ACORN is to re-enter the United States market through a \$1.25m (£0.97m) deal with the British American Scientific Instruments Corporation (BASIC), of Texas, a subsidiary of the Mexican electron-

ics manufacturer and distributor Datum.

Datum is acquire all existing stocks of the American version of the BBC micro, and has also been given manufacturing rights by Acorn. It hopes to produce and distribute BBC machines and peripherals both to the US, and Central America, and eventually to South America as well.

"Our association with Datum goes back a few years, and they have already developed a Spanish keyboard for the BBC," said Valerie Holt, Acorn's corporate communications manager. "Datum will sell a Spanish machine to the Hispanic-speaking population of the southern United States as well as the American version."

"Instead of losing money in the States, we will now be making some. Datum has a large distribution network throughout America."

Micronet helps charity appeal

MICRONET, the interactive database held a special edition of its Celebrity Chatline feature to raise money for the BBC's Children in Need Appeal last week.

The celebrities in question who included Selina Scott, actor Paul Nicholas, several members of the *Eastenders* cast, and astronomer Patrick Moore, moved to Micronet's office after appearing on screen at the BBC to answer questions from Micronet subscribers who were charged per question. The money raised went to the Appeal.

Commodore announces more losses

COMMODORE International has announced a loss for the three months up to September 30th of \$39.2m (about £30m) on a turnover of £159m (£120m). This follows its fourth quarter (up to June 30th, 1985) loss of \$124m

(£96m) and an annual loss of \$114m (£90m) for the year ending June 1985 (see *Popular Computing Weekly*, October 17).

These latest figures are worse than expected but Commodore International's chairman Irving Gould is still predicting a return to profit by December. Continuing development costs on the Amiga and C128 have been blamed for contributing to the poor results.

AMX mouse now out on Spectrum

THE FIRST 'mouse' is now available for the Spectrum Plus.

From AMS, which already produces its AMX mouse system for the BBC, and Amstrad,



the Spectrum package comprises the mouse itself, a dual mouse and Centronics interface and a number of software utilities *AMX Art*, *AMX Colour Palette* and *AMX Control*.

The programs all use icon driven pull-down menus and *AMX Control* provides 28 new Basic commands, a machine-code Basic interpreter extension program and icon designer.

The complete package costs £89.95. Details from AMS, Green Lane, Appleton, Warrington WA4 5NC.

SWORDS & SORCERY

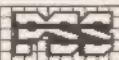
Just one of the 80 different fully animated opponents.

SKELETONS:

Skeletons are largely mindless; they have been magically animated to attack anyone they meet. There are two varieties: those with swords and those with swords and shields. These are usually tougher.



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Lenslok 'bug'

Mr Ioannou's letter, published in the November 21-27 issue, unfortunately contains some inaccuracies regarding the use of Lenslok in our Spectrum version of *Elite*.

Firstly, there are no limitations to the use of Lenslok as regards television colour or size, with the exception of very small portable TVs (5 inches or less). The few people who have experienced problems with Lenslok did so, not because of the system, but because of a 'bug' which crept into our instruction sheet, which has now been corrected.

Since Mr Ioannou's letter was published we have contacted him and he can now implement Lenslok perfectly on his 26 inch TV. It should be noted that he is now using our new instruction sheet, which is available, free of charge to all *Elite* owners, from the address below.

Secondly, regarding his point about unnecessary protection on *Elite* he forgets that most people now have access to a photocopier. Piracy costs the software industry a massive amount of money every year. Companies attempting to re-coup this lost profit must inevitably charge more for their software. If we are to prevent these charges being passed on to the innocent games-player then we must seek to use more and more sophisticated protection systems.

Even if there are a few teething problems this is clearly more desirable for everyone than having to pay out more hard earned cash because of piracy.

Phil Pratt
Marketing Manager
Firebird Software
Wellington House
Upper St Martins Lane
London WC2

Caught-out

Like your previous correspondent (*Letters*, November 21), I would like to complain bitterly about the Lenslok anti-piracy system on Spectrum *Elite*.

With a 20 inch receiver I did not find it possible to obtain the calibration required

to match the supplied piece of plastic.

With great care it is sometimes possible to observe the "OK" through the lens system but the eye must not be moved from this reference. You are then expected to decode further letters and quickly key them in blindly, still without moving the eye in case you have guessed wrong. The program only allows a few seconds for this before presenting new codes.

I would suggest that the incorporation of this system could lose more sales than any that illicit copying would have done.

Once caught out, I doubt if I will buy another program with such protection.

R H Bradley
21 Dedmere Road
Marlow

Clapham Elite

I have discovered a bug in Firebird's Spectrum *Elite*.

Once you have got through the Lenslok security loader press Y in answer to Load new Commander Y/N. Then press option 2 and save your position to tape.

Exit the menu with 3. Now the surprise: you will be berthed around the planet Tigeen with *Elite* status, 653425253.5 credits and enough hardware to decimate half the universe this side of Clapham!

Paul Hughes
Room 117
West Wing
Guys House
Guys Hospital
London SE1

Erasing Tasword

Just a short program for the 48K Spectrum to give the Microdrive version of *Tasword II* the ability to erase a file from within the program.

22 Print at 0.0: "Erase Text File e" 25 (Take out Gosub 4000) 100 Ifb=101 then let i=0 200 (Take out Gosub 4000) 605 If b=101 then go to 8000790 (Alter Goto to 20) 860 (Alter return to Go to 20) 1110 (Alter Goto to 20) 5020 (Alter Goto to 20).

8000 Cls: Car md: Print at

10.19: "Enter file"; at 12.19; "to be"; Flash 1; "Erased" Flash 0 9010 Let a\$=Inkey\$ 8020 Input a\$ If a\$= Then go to 8010 8025 Cls: Print at 10.11; Flash 1; "Erasing"; a\$; Flash 0 8030 Erase "m";md; a\$ 8040 Go to 20.

You can then run the program and erase *Run* and *Tasword*, then re-save from within the program. I have found it very useful.

R. Abrahams
14 Mill Road
Wingham Well

Faultless

I feel I must write to say your review of *Ultimate's Nightshade* was faultless.

It is high time Spectrum owners realised that the sun does not shine out of *Ultimate's* joystick ports!

Having said that I must admit their previous releases were all brilliant.

Jon Rose
14 Lion Road
Nyetimber
Bognor Regis
Sussex



the changes and the manufacture of a suitable adaptor to convert the 28-pin Eprom to the 24 pins of the Rom it replaces.

If anyone wants to know more perhaps they could drop me an SAE.

Robin Harvey
30 Wimborne Close
Coombe Glen
Cheltenham
Glos

Twin furore

There has been much furore recently about Amstrad's twin-deck unit.

Once again, we are told that such devices 'breach copyright' and should therefore be banned.

There seems to be a misconception (deliberately fostered, in part, by the software houses themselves) as to what, exactly, 'copyright' is and what rights the consumer gets under it.

Contrary to popular belief, the copyright laws are not intended to block legitimate usage of items for which the consumer has paid good money.

Magnetic media are not infallible. Indeed, on the contrary, my experience is that protection schemes are self-defeating, forcing me to break the protection and make a copy simply so that I have one which will load.

It is true that these gadgets could be used to break the law, making multiple copies to give or sell to others, but 'could be' is nowhere near strong enough a reason to ban them.

Whilst condemning the lawbreaking potential of their customers, the software people all ride around in cars; don't they know that cars could be used to kill people? That's far worse than a few illicit copies! So, let's ban cars, knives, headache tablets etc.

I sincerely hope that the revised copyright legislation does not rescind the provision of the 1956 Copyright Act which specifically permits the purchasers of copyright material to copy it for their own use.

Gael Dornick
42 Mallow Drive
Hardinville

C64 Rom Change

It was interesting to see an article by Tim Decker in the September 19 issue concerning permanent changes to the Commodore 64.

I have been doing something on similar lines but have extended it to cover the blowing of an Eprom containing

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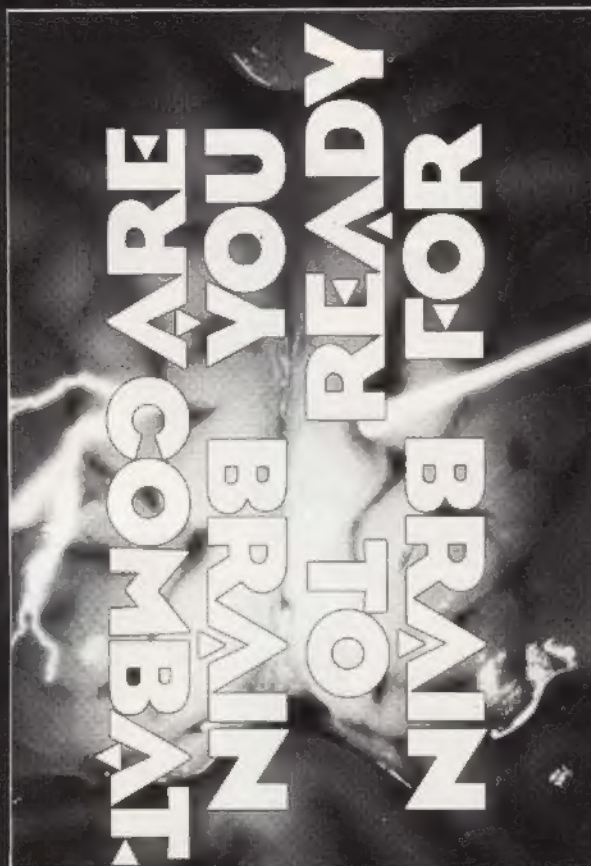
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DOCTOR WHO AND THE MINES OF TERROR WILL ALSO BE AVAILABLE AT MOST MAJOR HIGH STREET SHOPS





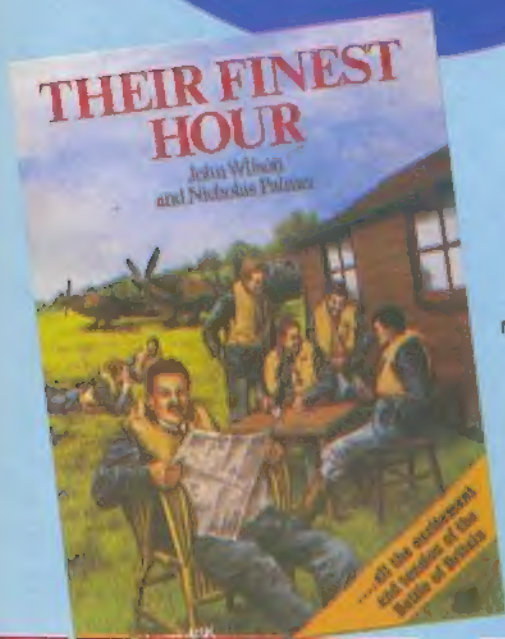
"What's that picture supposed to be?"

"Er, eye-catching, that's what it's supposed to be."

"But it doesn't tell you anything about the great new icon-driven Battle of Britain strategy game, **THEIR FINEST HOUR**, from Century Communications, publishers of **THE FOURTH PROTOCOL**. I mean, what's it got to do with using your skill and judgement to stem the almost inexorable advance of Goering's Luftwaffe? Does it tell you anything about the deployment of Spitfire squadrons and ack-ack batteries, the allocation of fresh pilots, or keeping in touch with the weather forecast? How about the daily reports you have to make to Winston Churchill, and the pulse rate feature where you control the speed of the game?"

"Well, er..."

"Right, we'd better hurry up and design a new ad before the game hits the streets on 9 December, and people start writing to and phoning Century Communications at 62-65 Chandos Place, London WC2N 4NW, Tel: 01-240 3411 and asking for copies."



THEIR FINEST HOUR



Their Finest Hour — a great strategy game simulating The Battle of Britain, by Nicholas Palmer and John Wilson. Published by Century Communications for the 48K Spectrum at £9.95.

48K Spectrum

Sharkey's machines

When you meet Feargal Sharkey, ask him why he's become such a wimp since the *Undertones*," demanded a friend of mine who still nostalgically keeps a ripped T-shirt and bondage trousers in the back of his wardrobe.

Certainly the contrast between the Feargal Sharkey of today and of *Undertones* days could hardly be more marked.

At least he still has the same distinctive voice; he must be one of the few singers who needs to smoke heavily to retain their voice.

Feargal sees his departure from the *Undertones* as his natural route to expand his musical range. "I just got bored, really. We'd made four albums and toured non-stop for five years. After that, I simply wanted to go and do something else."

But what, you may ask, is Feargal Sharkey doing in *Popular Computing Weekly* in the first place?

The reason is that he leaves most people who like to call themselves micro buffs on the starting block. Not only does he rush home to his Apple Macintosh, Tandy 100 and Commodore 64 whenever possible, but he raves over *Archon*, accesses Micronet day and night, freaks over his Fairlight, and - here's the crunch - in a previous existence, he actually used to make microchips.

"I worked at Thorn Electronics in the days before it was Thorn EMI as an electronic engineer designing chips, and although I got sidetracked by music fairly early on, I'm still interested."

"I decided one day that I wanted to make my own record, and I went out and did it. It cost me the grand total of £108 including VAT, for a four track single! Not bad, seeing as I made the top 30."

"Now computers have made music a lot simpler - the polyphonic step-time synthesisers where you play in one note at a time, and it comes back at you like real music mean that you can really do anything you like."

Doing anything he liked on the synthesiser evidently paid off. First of all there was *The Assembly*, where he made up a duo with Vince Clarke, ex-Yazoo, which spawned the top-selling single *Never Never*.

Then came the solo career, with *Listen to your Father, Loving You* and the number one hit *A Good Heart*.

Powerful songs which owe a lot to powerful toy as his brand new Fairlight - £88,000 worth of electronic music. "It's absolutely wonderful - I've hardly slept at all since it arrived."

"For a start the manuals are about four feet high, and once you've got the idea,

you stay up all night, every night, smashing dinner plates against the wall, slamming doors and so on, just to sample the noise they make in 90 different ways. And as for the sampling time, it's about a week long... no, no, I can't remember exactly, but it's fairly astonishing."

He's hardly had time to use his computers recently - he uses the Tandy for Telecom Gold, mailboxing his manager and agent, and basic accounts, the Commodore 64 for games and the Prestel/

should be Ehte - I think it's wonderful but I've never been able to get a copy. I tried to buy it when I got back from the US tour but unfortunately I had the humiliation of having my Access card refused for being over the limit - having been out of the country for four months, I hadn't made any repayments."

He shouldn't find it too difficult to pay off Access now. The new album, *Feargal Sharkey*, has received excellent reviews and the follow-up to *A Good Heart* is being released next week.

"It's called *Someone to Somebody*, and I would love it to be number one over Christmas," says Feargal.

Christina Erskine

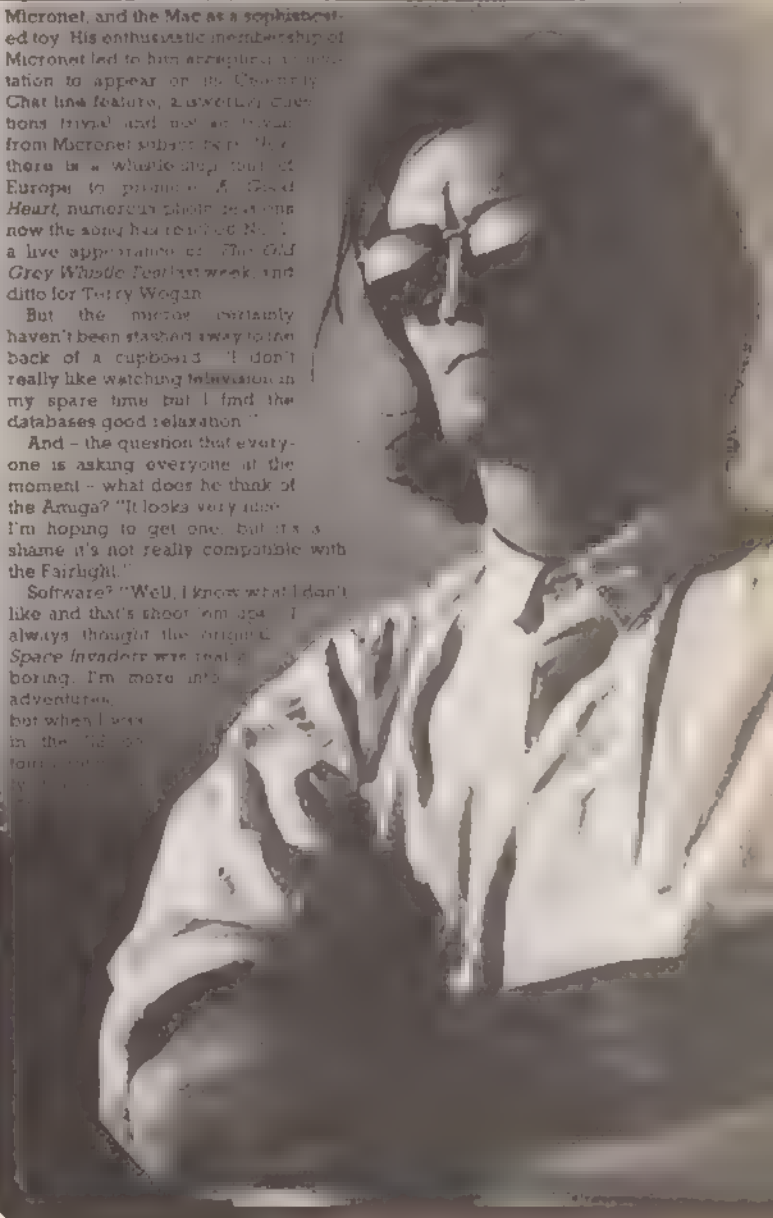
Micronet, and the Mac as a sophisticated toy. His enthusiastic membership of Micronet led to him accepting an invitation to appear on its Community Chat line feature, answering questions from and putting them back from Micronet subscribers. There is a whistle-stop tour of Europe to promote *A Good Heart*, numerous radio sessions now the song has reached No. 1, a live appearance at *The Old Grey Whistle Test* next week, and ditto for Terry Wogan.

But the mirrors certainly haven't been shoved away to the back of a cupboard. "I don't really like watching television in my spare time but I find the databases good relaxation."

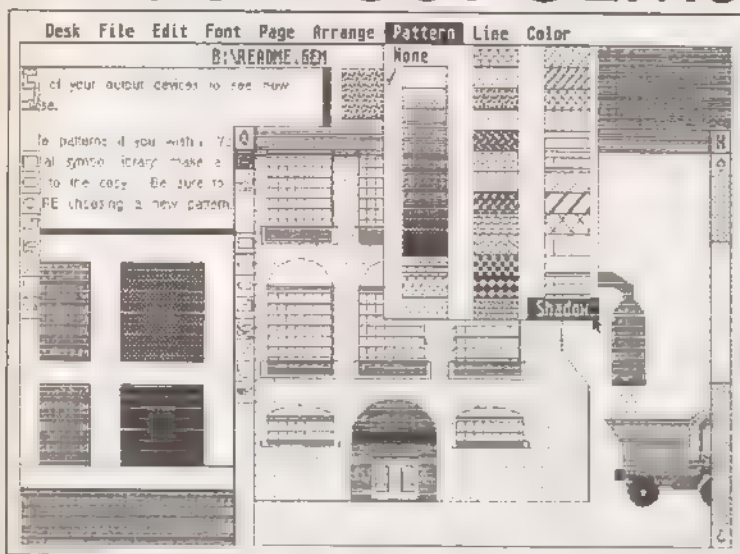
And - the question that everyone is asking everyone at the moment - what does he think of the Amiga? "It looks very nice. I'm hoping to get one, but it's a shame it's not really compatible with the Fairlight."

Software? "Well, I know what I don't like and that's shoot 'em ups. I always thought the original *Space Invaders* was really boring. I'm more into adventures, but when I was in the US for four months I was bored."

By the way, what's the



ROUGH-CUT GEMS



Like all good computer manufacturers, promises of items available for or with a machine are made good – even if they're almost six months late.

Atari promised to bundle a wordprocessor with the 520ST, namely *Gem Write*, written by Digital Research and at long last it is nearly available.

So also is its stable companion, *Gem Draw*, a design package which will be sold separately.

Here Jeremy Vine previews the two packages for the first time.

Program *Gem Draw Micro* Atari 520ST
Price £149.95 **Supplier** Atari UK, Atari House, Slough, Berks

Gem Draw, not to be confused with *Gem Paint* (also 'to be' bundled with the machine), is a simplified CAD (Computer-aided Design) package which allows the user to mix text and graphics on-screen, to create drawings and diagrams. The layout of the screen display is similar to all Gem packages with a menu bar running horizontally across the top of the screen. From this position the user can call one of eight pull-down menus. Used in combination with a set of drawing tools shown vertically on the left of the screen window, all drawing action can be controlled from the mouse.

The drawing area displayed on the screen is only a window on a much larger drawing board. Moving the mouse pointer over the Panner icon, causes the screen to display a reduced version of the entire drawing area. The Panner icon is useful not only in showing diagrams that spill beyond the initial drawing area but also when using the

Panner icon is useful not only in showing diagrams that spill beyond the initial drawing area but also when using the Zoom command.

Zoom is called from the page menu and is, as you would expect, a facility enabling specific areas of the screen to be magnified for detailed touching up. The picture often zooms into an area which you don't wish to enlarge and this is where the Panner is of use. From the global view of the drawing board, the magnified area is shown by an outlined boxed area. This box shows the window area on the normal display screen and can be moved by mouse.

The drawing options offered are relatively primitive in relation to a professional CAD package and these consist of icons representing rectangle, rounded box, circle, polygon, freehand draw, line, arc and

text. When anything is drawn, regardless of size or shape and the mouse button released (usually indicating the end of a drawing process), a box is immediately placed around it. These are called 'extents' and show the currently worked-on element of a picture. This allows all elements of a picture to be moved independently of each other. The extent box has a further use in changing the proportional dimensions of an element's width or height. In this way a shape can be stretched and distorted.

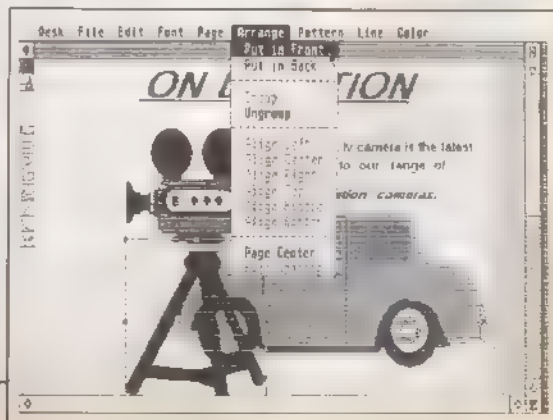
The drawing tools for creating ellipses, circles, rectangles and squares are activated from the mouse. By dragging the mouse and holding down the left mouse button any of these shapes are created. At this stage the user can then use the Line, Color or Pattern menus to complete the drawn element.

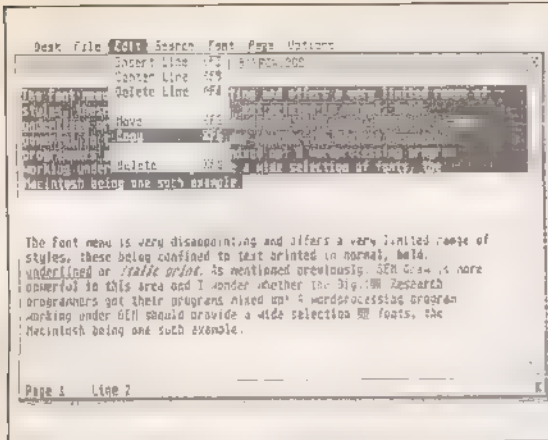
A total of 39 shading patterns are available from the Pattern menu. By pulling down the pattern menu and selecting a specific design pattern, the area within the shape (inside the current extent box) is then filled with that pattern. The Line menu provides options for thickness of lines, whether the lines are dotted, broken or connected and a facility for placing arrows at the ends of lines (useful for flowcharts). The 'Color' menu is of use only if you possess a colour monitor as the monochrome version shows only black or white – no shades.

Text can be freely integrated into any area of the screen and different character fonts (size, italics, etc) can be chosen from the Font menu. The choice of fonts was stronger in *Gem Draw* than in *Gem Write*, which seems really odd.

Any element of a drawing can be deleted and replaced if necessary, by use of the Edit menu. The File menu offers the usual array of filing commands for storing drawings on disc and output to a printer or plotter. The version of the program I preview here contained a driver on a separate disc for Epson compatibles.

Finally, what has to be the most impressive part of the package – the Arrange menu. Drawing elements can be placed behind or in front of other drawing element and drawings aligned and centered on-screen. This facility is sim-





The Font menu is very disappointing and offers a very limited range of styles, these being confined to text printed in normal, bold, underlined or italic print. As mentioned previously, Gem Draw is more powerful in this area and I wonder whether the Digital Research programmers got their programs mixed up! A wordprocessing program working under GEM should provide a wide selection of fonts, the Macintosh being one such example.

plivity itself to use but delightfully powerful in effect.

Gem Draw as a basic drawing tool is wonderful to use because of the window-icon-mouse-pointer environment and this was borne out by its instant use with little reference to a manual.

However it's by no means a heavy-weight in CAD programs and this is not its intended market.

I really enjoyed using Gem Draw and it will no doubt find a place in many a program library, not least in conjunction with the other piece of software I preview here, Gem Write.

Program GemWrite Micro Atari 820 ST
Price Free with machine **Supplier** Atari UK, Atari House, Slough, Berks

Gem Write is the freebie wordprocessor included with the 520ST computer.
It is a basic level package but more

than adequate in providing the essential commands for composing documents. Because Gem Write was included as a throw-in element of the ST package I was expecting very little from it but was pleasantly surprised.

Wordprocessors are, in general, notorious for the length of time it takes to become acquainted with the most rudimentary commands, let alone the more complex facilities. Gem Write goes against the grain in being quick to use possessing facilities that are adequate for home and small-business use. Without reference to a manual (I didn't have one!) I mastered all of Gem Write's commands in a space of time that would normally be used to acquire the absolute basics on another wordprocessor. This is very much due to the nature of mouse driven programs.

The program can be controlled through a mixture of mouse and keyboard controls with the pull-down menu options selected by the mouse also available from the function keys on the ST keyboard. Typing on the screen starts from wherever the flashing cursor bar is placed (by moving the mouse) and text is automatically wrapped-round and justified at the end of a line.

Six menu options exist besides the usual Desk menu, these being File, Edit, Search, Font, Page and Options.

File is the same as for Gem Draw

except that text or graphics (from Gem Draw) can be inserted into the Gem Write document.

Two options for printing out text exist, one being a Print Draft command that prints a draft copy of the document very fast but leaving out text attributes like underlining, italics, pictures. The other To Output option produces the document in its final format.

The Edit menu consists of facilities to insert, delete and centre lines as well as moving, copying and deleting text. All these commands, in common with most within the package, rely on the user highlighting the text to be worked-on (ie copy a block of text). This is simple and involves moving the cursor to the relevant text, holding down the mouse button and dragging the pointer over the area of text concerned.

The Search menu is for finding and replacing text as well as instructing Gem Write which page of the document to display. The screen shows only part of a physical page but a page-break line is shown at the end of each page.

The Font menu is very disappointing and offers a very limited range of styles, these being confined to text being printed in normal, bold, underlined or italic print. As mentioned, Gem Draw is more powerful in this area and I wonder whether the Digital Research programmers got their programs mixed up! A wordprocessing program working under a Gem-like environment should provide a wide selection of fonts, look at the Macintosh example.

Margins, Tabs and Rules are set from the page menu as well as the formatting options such as justification, pagination, line spacing, page length, etc. All these options are clearly presented and easy to implement. The document can be scrolled in either direction by holding down the arrow keys on the keyboard with page-jumps effected by the combination of the Control and Arrow keys.

As a wordprocessor, Gem Write lacks the finesse of more professional packages but is still a very fine basic level wordprocessor.

I liked both packages. On the plus side was their ease of use and friendly front-end appearance. On the minus side, both packages lack a number of features that can be found on other pieces of software.

Gem Draw at a proposed price of £149.95p is way over the top for this kind of packages and is at odds with the pricing of similar products on the ST (£50 to £100). Perhaps sanity will prevail. Anyway, a good attempt by DR and perhaps a promising sign of better things to come.

Jeremy Vine is the author of *The Atari ST Companion*, published by Sunshine Books, price £9.95p.

The VT52 Emulator Software

One of the most under-publicised features of Gem on the Atari is the inclusion of a terminal-emulator. This nifty little piece of software is one of the few programs actually available to early purchasers of Jack Tramiel's super-micro. It is also very useful as it immediately opens up the world of communications to the software-starved ST-user.

Selecting the Desk option from Gem allows you to choose the characteristics of the built-in RS232 port or to run the terminal-emulation program. RS232 baud rate can be selected as 300 (for bulletin boards), 1200, 4800, and 9600.

Duplex can be set to full or half. Normally this would be set to full duplex when using a modem, although this depends on the computer at the other end of the line. I found that full duplex was fine for bulletin boards but when connected to a friend's computer (via modems and Telecom) half duplex was more practical.

The RS232 connection itself is refreshingly straightforward. You need a cable with a 25-pin D-type plug although this must be a female type rather than the more usual male type. Pin connections usually cause all sorts of problems with RS232 but Atari seem to have stuck to the standard as I had no trouble at all connecting to the two modems that I tested. Watch out for high prices on ready-made cables, though.

Terminal-emulation is the simplest type of communications software. You can send characters as they are typed in and received text is shown on-screen as it comes in. You cannot send or receive pre-prepared files, nor can you exercise much control over things like linefeeds, control-codes and display format.

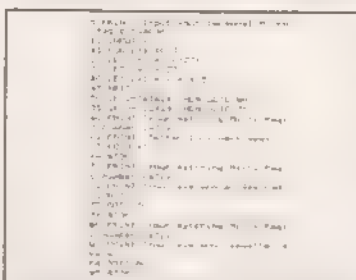
In conclusion, the terminal-emulator will let ST users who have less than a passing interest in Logo get on with using their machines while they wait for the production versions of Gem Write and the rest of the promised software.

John Cochrane

The Amstrad CPC6128

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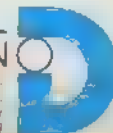
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The most important thing to say about this package is that anyone with an Amstrad CPC computer should drop everything, get out their cheque books, and buy it now! It represents remarkable value for money, and whilst it may not have the sophistication of labour saving features of more expensive communicator set-ups, it provides an unparalleled opportunity for an entry into the world of Prestel, Bulletin Boards and the like.

The package is a joint production from Cirkit, who produce the hardware, and Honeysoft, who have written the software. For your money you get a RS232 interface, complete with driving software, a Protek battery-driven acoustic modem (built by Cirkit) and, gratifying with such a budget purchase, some quite usable and readable documentation.

The interface is not as flexible as some you can buy, it offers 75/1200, 1200/1200 and 300/300 baud rates with handshaking. The latter is surprisingly not supported by the modem supplied, but the available options are certainly sufficient to allow you to access the most popular telephone services including the new AMSNET boards for Amstrad users, and of course other modems can be fitted if the hobby really grabs you. Incidentally, the interface will not work with CP/M but the accompanying software provides you with RSX extensions



to Basic which can be used in your own programs to connect with other peripherals such as printers and plotters. It uses a DIN type plug rather than a D connector.

The modem is the acoustic sort that gets both ends of the phone stuffed into it, you are probably familiar with them. It is said to be more reliable than some direct contact modems (the ones that plug into the wall telephone socket) and compatible with most standard designs of telephone, which sounds worrying for those with the standard designs of phone that will not fit. In practice you shouldn't have any problems unless you have a Mickey Mouse set or keep your phone in a tiny alcove in the hall.

The accompanying software does several nice things. For a start there is no Amstrad display mode that directly corresponds to Prestel standards, 40 columns and eight colours, so you are offered the choice of operating in low-

res multicolour, with the character set redesigned to produce 40 columns, or in high res four colour mode with stippling effects used to approximate to the missing colours. The last received page is held in a memory buffer so you can change modes, etc, without losing the picture.

On loading you are given a menu choice of options, there is a Prestel mode, a terminal emulation mode compatible with Telecom Gold and the like, and a mode for sending and receiving ASCII file text or programs down the phone from one Amstrad to another. The latter has its own error detecting system.

Unless you have a specific use for a modem that exceeds these capabilities, this package is an excellent value means of testing out a new hobby and provides you with an RS232 that will work on most applications as well. Worth 30 quid of anyone's money.

Tony Kendle

Datapad 16C

Hardware Datapad 16C Micro Commodore ■ Price £39.95 **Supplier** Voltmace, Park Drive, Baldock, Herts

Notwithstanding its excellent keyboard, the Commodore ■ does have some deficiencies.

From my days with the old Pet comput-



ers, I can recall the value of the numeric pad on the right-hand side of the main keyboard. This convenient duplication of the number keys was a particular boon.

The idea behind the Datapad 16C is to provide the same for the C64 - an additional programmable pad of 16 keys.

What you get for your money is a wedge-shaped metal box about six inches square. The two leads from the pad plug into the two joystick ports and the standard of construction is good with high quality keys mounted on a decent glass-fibre circuit board.

The feel of the keys is better than that of the 64 itself and a dimple is provided on the 5 key as a reference point. The keys are marked with the ten numbers, full stop, equals and the four standard arithmetic operators with the normal layout for a numeric pad.

So you plug it in, switch on and what happens? Well, not a lot. Pressing the keys simply duplicates some of the other keys. To make the system work, a small piece of machine code must be installed. This code tweaks the look-up table in the Rom coding and links the modification into the operating system.

The software gives detailed instructions on how to use the pad and allows you to define the keys to give the characters of your choice. You have the option

to save the definitions on tape or disc.

Clearly, this pad is aimed at the serious user. First it punches both joystick ports, precluding games, and second you cannot get any of the graphics characters since they have been reprogrammed. One strange feature of the system is that Shift Lock must be engaged before the keys give the required responses.

So who might use this product? Anyone who has to input a large quantity of numerical information. It will clearly be of value to anyone keying data into databases or payroll systems.

The particularly attractive feature of this product is the open way information is provided. The two pages of instructions supplied give details on how to adapt the software to work with discs and how to relocate the machine-code so that it doesn't interfere with your own software. I wish other manufacturers, including Commodore, would adapt such an open attitude.

Inevitably it will have a limited market, but it is a robust, well made product which functions efficiently.

Alan Webb

Hardware

DMP-2000 Printer

Hardware DMP-2000 printer Micro Any with Centronics printer connection **Price £159.95 Supplier Amstrad Consumer Electronics, 169 Kings Rd, Brentwood, Essex.**

A mstrad has done it again! So good is its new dot-matrix printer that I am very likely to run out of superlatives before the end of the review.

Let me say right now that if you do not yet own a printer, then this is most definitely the one for you. If you do then this is very likely better than the one you presently own.

At less than £160 (or only £136 through the Users Club) this is without doubt one of the best value for money dot-matrix printers available today offering an unusually wide range of type styles.

The price includes the interface cable to the Centronics port on the back of the computer, so it's only a matter of plugging in and away you go (apart from a plug).

Cosmetically the printer is coloured in what now is recognised as Amstrad dark grey, neatly matching the other hardware from the same stable. The most visually unusual aspect of the printer is the pair of folding legs that the machine

stands on, thus allowing storage of folded paper underneath. This ties up the work station no end.

Apart from the printer itself, you get a comprehensive handbook and on the underside of the polystyrene packing, so well secreted away that mine was first thrown into the dustbin, the all important printer ribbon.

All you need to know about plumbing-in the printer is adequately explained in chapter one of the accompanying handbook. However, do beware the instructions on Page 7 with regard to fitting the cable into the port on the back of the computer. The plug has to be presented to the port with the ribbon cable emerging from the top of the plug, and not from the bottom as shown in the book.

Defaulting to Pica typeface at switch-on, this being perfectly suitable for draft work or program listings, other type styles are Elite, Proportional, Condensed and Near Letter Quality. The following functions can be applied to these main typefaces. Subscript, Superscript, Double-strike, Italics and Bold.



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This is an example of Near

Letter Quality printing

Additionally both Underline and Double-width modes may be applied.

Consequently a great variety of fonts are readily available. Examples of all the various Escape codes and sequences are given in the manual, and all are written in either sensible English or Locomotive Basic. As an added bonus to anyone out there with a computer other than an Amstrad, all the commands are given in Microsoft Basic, BBC Basic and Commodore Basic.

Five modes are offered for graphic printing. The example in the figure was produced using the bit-image mode. This review only scratches the surface of what is possible with this superb piece of hardware.

David Holmes

SOFT INSIGHT

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Midi music

Program *Advanced Music System Micro* **Commodore 64** **Price** £14.95 **Supplier** Rainbird Wellington House, Upper St, Martins Lane, London.

There seems to be a virtual plethora of programmable music software available at the moment like Activision's *Music Studio*, Ariolasoft's *Music Construction Set* and even Melbourne House's *Wham! Music Box*, but quite frankly, they all play second fiddle to this simply astonishing program from Rainbird, the new spin-off from Firebird.

The *Advanced Music System*, heretofore referred to as *AMS*, is so comprehensive it can even be used at professional level by musicians who use a Midi keyboard.

The music is entered via a number of different options; for instance, the *Editor* module lets you catalogue in written music format, inserting notes one at a time on to

=====

THE MUSIC SYSTEM
ISLAND LOGIC
AND SYSTEM

MUSIC FILE M.PRINTER
SOUND FILE S.INSTRNM
BEATS/MIN. 100 ANDANTINO
KEY SIGNATURE D# MINOR

'electronic sheet music'. Select the *Keyboard* module and you can use the keys of your 64 to play notes and sounds which automatically appear as written music on screen. All manner of instruments and sounds can be reproduced by the program if you play around with it long enough. Calling up the *Synthesiser* option is really

where *AMS* comes into its own. The synthesiser creates and edits all the sounds used in the program and can, for instance, take a note, shape and bend it, change its pitch, attack, or duration and in fact, do with it what you will - the possibilities are endless. Also available is a *sequencer* file, which allows tunes to be played back whilst you

change or edit the sounds.

There is also a facility to include lyrics directly above the sheet music as it is printed out.

All the on screen information is dealt with using pop up icon graphics, very pleasing to the eye and most of the keyboard operation is via the function keys, keeping operation as simple as possible in such a complex program.

Supplied on the disc are many examples of tunes and sounds, in fact, side 8 is full up with them. I have never heard so many sounds from my 64 and there is no doubt that *AMS* is way ahead of anything else on the market.

Obviously, the disc version is the most complete and comprehensive and although pricey at £39.95, it is a must for any musically orientated person. However, there is a version available on cassette at £14.95, which is substantially cut down. The Midi facility and printout options are dropped, but it is still good value for aspiring musicians.

Andy Moss



Old aged

Program *BC's Quest for Tires Micro* **Spectrum** **Price** £7.95 **Supplier** Software Projects Limited, Bearbrand Complex, Allerton Road, Woolton, Liverpool L25 7SF.

tires (sic) but for his bird, Cute Chick (very sick) who has been captured by a dinosaur. So this fossilised Clive leaps on his C1 and pedals off with nary a rock (pun!) until he fails to jump a stone or pothole when he rolls (another pun!). Other hazards include trees with branches to

by Dooky Bird airlines.

The presentation is shocking and there are some attribute problems way beyond those that are inevitable with the machine. In play it's quite engaging, though your reactions soon become

mechanical.

Okay for simple arcade fun but the price is way over the top for something that's patently prehistoric.

John Minson



More sand

Program *Decision in the Desert Micro* **Commodore 64** (disc) **Price** £14.95 **Supplier** MicroProse Software, US Gold, Unit 10, Parkway Industrial Centre, Heneage Street, Birmingham.

Decision in the Desert follows very closely the format of MicroProse's first strategic level Second World War game, *Crusade in Europe*.

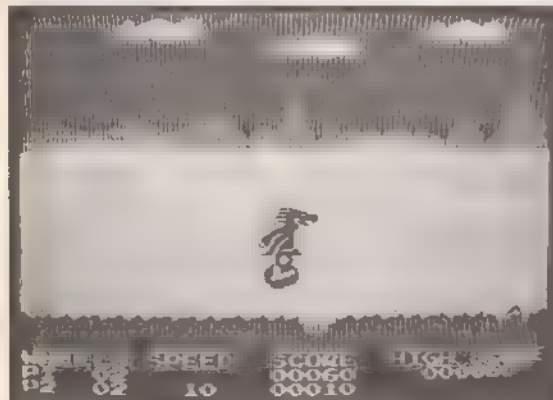
The game is at least as enjoyable to play than *Crusade*, indeed it has some positive advantages. The chief amongst these is that it is much faster moving. There are two reasons for this one is the smaller scale (one hex

equals three instead of six miles), the second is the nature of the desert campaigns themselves. The game faithfully recreates the often chaotic, feel of the desert battles.

MicroProse has deliberately chosen to emphasise this side of the desert war in its choice of scenarios. There are five: Sidi Barrani, Operation Crusader, Gazala, first Alamein and Alam Halfa, each of which contains several sub-scenarios offering the player plenty of choice.

MicroProse omits the second part of the battle, claiming the object was to recreate the cut and thrust of the first half. This the program does very well - a very good strategy simulation.

Peter Berlin

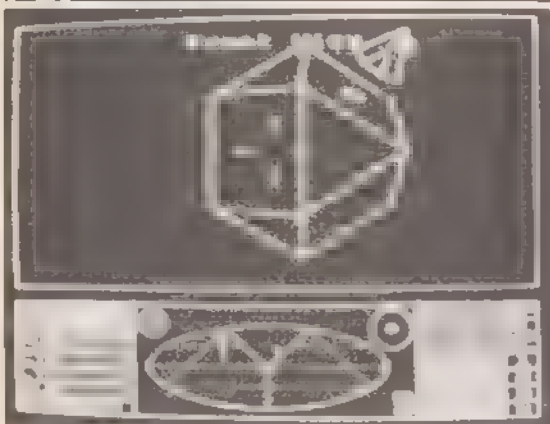


Stoneage antics with Thor who rides around his neanderthal world on a flint wheeled unicycle.

His quest is not to be for

duck and bars to leap over.

The journey progresses with more of the same though up-hill, and there are falling rocks and a flight across a pit



Prime cut

Program *Elite* **Micro** Spectrum **Price** £9.98 **Supplier** Firebird Software, Welling House, Upper St Martin's Lane, London WC2H 9DL.

At last it's here and it's one of those games I'm unbearably enthusiastic to review. I've seen *Elite* on other machines and it's my sort of game, combining action with thought, providing a vast scope for free movement, a real adventure

through eight galaxies and 2,000 plus planets. As I collect one of the first production copies I'm nervous. Will Spectrum owners really be able to indulge themselves in the lifestyle of an intergalactic trader just as Commodore and Beeb owners have?

Even that controversial security system, Lenslok, is persuaded to work second time and I'm at the controls of my Cobra Mk III, launching, practising manoeuvres. I play throughout the day. I play into the night. Have they done it? Yes!

However I must qualify that 'yes', because some aspects of the game are less than perfect. For instance, the 3D line graphics are smoother than in pre-production versions, but you can still see the stars through solid objects - a limitation of machine memory, I presume. It's not a game for the impatient either, because at the start, without a

docking computer, you'll spend ages learning to control the ship. Those who prefer a swift shoot 'em up should return to *Space Invaders* immediately.

But I can ignore these 'failings' because of the virtues. That very difficulty means that you have to work at this game. Combine that with excellent documentation, from the Cobra Owner's Manual to the identification chart, and unlike any other program, *Elite* becomes role playing. It fires the imagination and draws you into a credible universe.

So if you want to live this adventure, join the Elite, and one day, with years of experience behind us, we'll meet on a space-station in some galaxy far from our starting point and swap stories of space trading.

John Minson



Words

Program *New Word* **Micro** Amstrad CPC 6128/PCW 8256 (CP/M Plus) **Price** £78.00 **Supplier** Newstar Software Ltd, 45 Flanders Mead, Brentwood, Essex.

With the release of the large memory Amstrad machines the amount of available CP/M software has suddenly burgeoned. However the price of many of the releases is more than the hardware. *New Word*, a word processor, is an exception in that it has actually undergone some price cutting to attract a wider market but despite that it is still expensive by home micro standards.

Perhaps the most important point is that *New Word* in very many respects behaves exactly the same as *Wordstar*, same control commands, same sort of file format etc. Some cynics may suggest that this is a positive disadvantage but *Wordstar* dominates professional word processing to an extraordinary degree. Jobs are advertised for *Wordstar* trained typists, many professional software packages and printers are configured to fit

around *Wordstar* files, use the same commands etc.

Okay, why *New Word* rather

than the similarly priced *Pocket Wordstar*. Because it has a lot extra that *Wordstar*



doesn't. Built in Data Merge (for form letters) with powerful conditional features, an 'undelete buffer' for recovering erased blocks, faster response times and better help facilities.

Like most CP/M word processors you will get on much better with two drives, but 80K room can be made on a single drive work disc if you are ruthless.

Tony Kendle



On board

Program *Inter-Sheet* **ROM** Micro BBC B **Price** £56.35 **Supplier** Computer Concepts, Geddesden Place, Hemel Hempstead, Herts HP2 6EX

When the firm which gave us *Wordwise* produces a new chip all BBC owners sit up and take notice.

When that program is a spread-sheet both faster and with more features than programs normally costing lots more we pay even closer attention. When it also forms a series of linked utilities which bring instant communication

between programs - then we rush out to buy.

Inter-Sheet is first rate. It offers you a spreadsheet of 38 by 255. You see a section at a time and scroll over the whole lot easily young *Wordwise*-type controls. The package has been designed to be very familiar to anyone who uses *Wordwise*.

On spread-sheets you enter data in some boxes and formulae in others. The formulae will, for example, total up columns, rows or certain boxes as you specify. *Inter-Sheet* has all the usual BBC Basic mathematical functions, most of the logical operators, plus special features such as averaging and summation. Even discount tables can be incorporated.

The system is easy to use yet can be adapted to suit most purposes. You can adjust box sizes, change the mode, alter colours, centre headings... the list is nearly endless.

You can dump the spreadsheet or parts of it to a printer, send files to a word-processor or link to other chips in the *Inter* series to pass on details immediately. You can also work with up to 16 different sheets at once in memory.

At last spreadsheets have come to the BBC in a top-notch form. *Inter-Sheet* will do for figures - what *Wordwise* did for writing.

Dave Watterson



Duo

Program *Zkul and West* **Micro** Atari ST **Price** £24.95
Supplier Talent Computer Systems, Curran Buildings, 101 St James Road, Glasgow G4 0NS.

Zkul and West, two text adventures from Talent, have been very successful on the Commodore and the QL.

Talent is the first British software house to write a commercially available adventure for the Atari ST.

Apart from the colourful scene-setting picture on loading, both adventures are text-only, black-on-white and follow the usual pattern of such affairs, with complex sentence input being possible. There are, naturally, a few innovations - the player can ask the computer, "What is (this thing)," when confronted with a wizardly-named object, like the trisk (ask the computer what that means) or the coscat (ditto). Typing *Health* gives a rundown of the player's state of well-being, while also shows the number of moves and restores since the game started.

The scenario of *Zkul* consists of well-worn pages from

the fantasy book, placing the player in a subterranean complex of dark passages, peopled by short fat gnomes, beset with fiendish mazes and littered with treasure such as pearl necklaces and silver bars. You've seen it all before, but the puzzles therein are pretty esoteric - the aforementioned coscat lands you in a shrinking room which will crush you to death if you're not quick enough to solve the room's riddle. A free clue here - try kicking the portcullis to enter the underworld!

West, as you may surmise from its title, is set in the Wild and Woolly West (of the late 18th century America), and features bank robbers, rattlesnakes, flea-bitten nags and the tumblin' tumbleweed - you can almost hear the sons of the pioneers in the background. This is an unusual scenario, but quite successful, offering as it does the chance of winning promotion to Marshal and the ensuing fight against the baddies. You start the game with only your six-gun for company. The buzzards are lurking, licking their beaks and just waiting for you to make a wrong move. Like *Zkul*, there is a resurrection facility available, but this tends to leave the landscape littered with

smelly corpses.

Both adventures play well, though *Zkul* seems to me to be the more addictive of the two. I was disappointed that the extra memory of the Atari was not used to give us more detailed location descriptions, and maybe more puzzles, than the original versions, as Talent seems to have done a straightforward conversion (though *West* now

contains a good version of a Blackjack game in case you need a rest from all the adventuring) - a few days' thought would surely have produced even richer games? Having said that, having these two adventures on one disc is certainly excellent value.

Tony Bridge

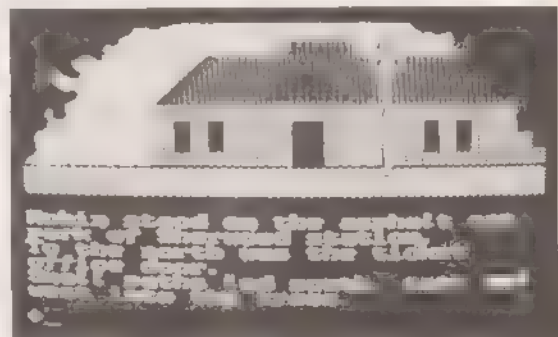


Rob the rich

Program *Robin of Sherlock*
Micro Spectrum **Price** £7.95
Supplier SilverSoft Studio TD King's Yard, Carpenters Road, London E15 2UD.

Riddle: What's found on Sherlock Holmes and in Sherwood Forest?
Answer: A deer stalker. Only

playing area is vast (too vast?), some illustrations are very good. The speech capability (to quiz Hurn - sic - about his alibi, etc) and sentence input disguise the *Quill* origins brilliantly, but this seems to have resulted in a less than friendly vocabulary. A nice joke about how boring the forest is soon became boring itself and the repeated pictures take too long to redraw. Similarly anachronistic



Perspective

Program *Chimera* **Micro** Spectrum **Price** £3.95 **Supplier** Firebird Software, Wellington House, Upper St Martin's Lane London WC2H 9DL.

Once we all marvelled at Ultimate's 3D techniques but today everyone gets in on the act,



even at a budget price.

Chimera helps launch the Super Silver range, at twice the price, but that's still half of what you'd pay for *Alien 8*.

I reckon some cloning has been going on in the depths of space, because here we have a maze made up of blocks and a character who looks strangely like a cute little robot, walking along with a clicking reminiscent of a clockwork toy. Here's another mission to collect objects and use them to destroy the alien craft and not yourself.

Ignore these similarities though and the game's playable enough but some puzzles could make you resort to trial and error, I think.

The 3D is not quite perfect - your character appears to walk on air at times - but that doesn't cause problems.

What does give grief is that some objects are out of sight behind walls, so you have to wander far and wide, with food and water running out and radiators and objects to speed the drain. There's no time to lose as you keep a

the warped minds of Delta 4 could conceive that... and then turn it into a three part adventure!

Hot on the heels of *Bored of the Rings*, and now under the eye, if not control of, SilverSoft, comes another sideswipe at a Melbourne House biggie plus Adventure International's outlaw, with the Wizard of Oz and Smurfs thrown in.

Only this time D4 seem to have spread it too thin. The

NCPs and Superloos aren't that funny unless they have a real role in the game.

There's also a bonus program, a subjective guide to London which displays an unhealthy preoccupation with Bronski Beat!

But not even a mention of our own Martin Croft will persuade me that this is up to *Bored* standards.

John Minson



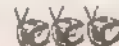
robotic eye open for loaves and mugs. Steering is by the anti-clockwise turn and forward technique, of which I am not fond, and here it's aggravated by the fact that your robot fails to stop on an interstellar sixpence.

We've also got used to talking Spectrums by now, but

this is the first game I've seen where it not only announces itself but your character dies with a blood curdling scream.

I'm sure this will be a hit with all *Alien Eighters*... or is that lovers?

John Minson



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◆ Consider all data as confidential.

- ⊛ Tschüßli wil jurege zum wachstums forch miderbrue.
- ⊛ Vurj wery zum so wem. HCHew wem die H am re wery vey vey.
- ⊛ Z jurege wem jurege so z wery wery.
- ⊛ Tschüßli wil jurege zum wachstums forch miderbrue.
- ⊛ Als jurege wem re. HCHew wem die H am re wery vey vey.

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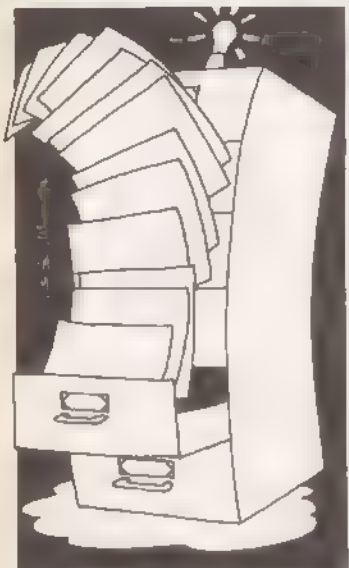
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Name _____

Address _____

Postcode

SEND TO: NDSL
PO Box 40, Stetchworth,
Newmarket, Suffolk CB4 9XW



This week more listing (one more to follow next week) - but first, more instructions on how to use the beast once you've got it up and running, starting with Central Menu One

As explained last week this menu is concerned with defining or loading the data file format. It offers the following options:

1) Open New Data File

This option must be selected by first time users, as there is no data file format

VERSATILE FILE

by Wail Sabbagh

stored on tape or disc. This option requires the following data to be entered:

- 1) Name of data file.
- 2) Number of fields in data file.
- 3) User password (if required).
- 4) Max number of records in data file.
- 5) Name of each field in data file.

After all data has been entered, the user will move to the main menu (primary menu two).

2) Load Data File

This option will load a previously defined file format plus its contents. As in option one, once the data has been loaded, the user will move to the main menu (and unless the file is unprotected, the user password must be entered).

The option offers the following choices:

- 1) View disc directory.
- 2) Load data file from tape - with an optional choice of loading first file found without any name specified.
- 3) Load data file from disc.
- 4) Return to Central menu

All errors encountered will be reported on the Com File error screen, control then being returned to Central menu.

The second main menu through which the program now is controlled is Primary Menu Two. This menu is concerned with the manipulation of the data file, consisting of ten options; most of which will move to their own secondary menus. This menu offers the following choices:

1) Enter Next Record

2) Read/Search Menu

This menu is concerned with locating and displaying on the VDU a required item of data in the file. This option offers the following choices:

- 1) Display record by number.
- 2) Read block of file.
- 3) Search through field, such as entering 'car' to locate car racing, carrot or carbon.

4) Subsearch through field, such as entering 'ea' to locate ease, reason, bread, or deep sea mining. Option three and four allow a max of 80 characters in the search field.

- 5) Browse through file.
- 6) Return to control menu.

3) Printer Output Menu

This menu requires a CBM printer, or a CBM printer simulator. User port interfaces can be used, but the driver software must be loaded before Com File, and Ram top lowered accordingly. This option offers the following:

- 1) Output 1 record,
- 2) Output block of file.
- 3) Output all file.
- 4) Return To Control menu.

Options three and four offer the choice to exclude certain fields.

That's all for this week. Next time, your final helping of listing, plus more instructions.

```

4238 IF B1=0 OR B1<1 THEN ER= "RECORD NO OUT OF RANGE" GOTO 10000
4240 EIMB1 GOTO450E
4250 PRINT "I"
4260 PRINT "I",ENTER RECORD NO TO START:,"I"
4270 PRINT PRINT INPUT "Q",B1
4280 PRINT "Q",ENTER RECORD NO TO FIND:,"I"
4290 PRINT PRINT INPUT "Q",B1
4300 IF B1=0 OR B1<1 THEN ER= "RECORD NO OUT OF RANGE" GOTO 10000
4310 IF B1=0 OR B1<1 THEN ER= "START AND END FILE TELLER" GOTO 10000
4320 GOTO 450E
4330 PRINT "I"
4340 PRINT "I",ENTER FIELD NO TO SEARCH:,"I"
4350 PRINT PRINT INPUT "Q",B1
4360 IF B1=0 OR B1<1 THEN ER= "FIELD VALUE OUT OF RANGE" GOTO 10000
4370 PRINT PRINT
4380 PRINT PRINT
4400 PRINT "I",ENTER TEXT TO SEARCH FOR:,"I"
4410 PRINT PRINT INPUT "Q",B1
4420 GOTO 10000
4430 IF LEFT$(B1,IN$(B1,LEN$(B1)))= $THEN B1= ER= "ZZ" GOTO 4600
4440 NEXT X
4450 ER= "END OF SEARCH" GOTO 10000
4460 PRINT "I"
4470 PRINT "I",ENTER FIELD NO TO SEARCH:,"I"
4480 PRINT PRINT INPUT "Q",B1
4490 IF B1=0 OR B1<1 THEN ER= "FIELD VALUE OUT OF RANGE" GOTO 10000
4500 PRINT PRINT
4510 PRINT "I",ENTER TEXT TO SEARCH FOR:,"I"
4520 PRINT PRINT INPUT "Q",B1
4530 GOTO 10000
4540 FOR I=1 TO LEN$(B1)
4550 IF MID$(B1,I,1)= "X" THEN B1= "ZZ" GOTO 4600
4560 NEXT I
4570 ER= "END OF SEARCH" GOTO 10000
4580 PRINT "I"
4590 PRINT "I",ENTER RECORD NO TO PRINT:,"I"
4600 PRINT PRINT INPUT "Q",B1
4610 IF B1=0 OR B1<1 THEN ER= "RECORD NO OUT OF RANGE" GOTO 10000
4620 PRINT PRINT
4630 PRINT "I",ENTER RECORD NO TO START:,"I"
4640 PRINT PRINT INPUT "Q",B1
4650 PRINT "I",ENTER RECORD NO TO END:,"I"
4660 PRINT PRINT INPUT "Q",B1
4670 IF B1=0 THEN ER= "RECORD NO OUT OF RANGE" GOTO 10000
4680 IF B1=0 OR B1<1 THEN ER= "START AND END FILE TELLER" GOTO 10000
4690 GOTO 450E
4700 B1=1:END
4710 PRINT "I",EXCLUDE ANY FIELDS Y/N TO:,"I"
4720 GOTO 450E
4730 IF B1= "Y" THEN B1= "N"
4740 PRINT "I",ENTER FIELD NO TO EXCL:,"I"
4750 PRINT "I"
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4780 PRINT "I"
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6000 PRINT "I"

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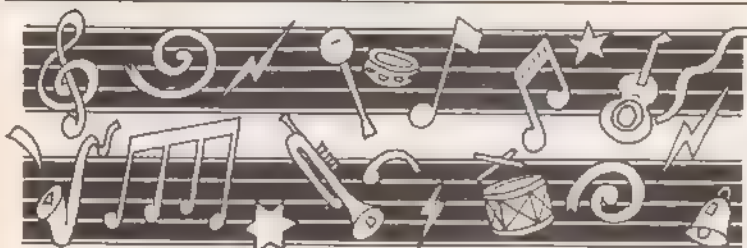
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MUSIC COMPOSER

by Cy Noble

In the listing you will see three provisional addresses for tunes, which are suitable for disc users. Cassette users can use them also but more memory is available if you take them down to &E00. Type:

*INFO ** Return (disc users)

*OPT 1,2(RETURN) *CAT(RETURN)

Press PLAY (Cassette users)

This will give you information on the lengths of files, etc so you can pack your tunes in. Adjust tune2adr at tune1adr + length of tune etc.

After running the assembler program, if the checksum is wrong the program is ended and you are asked to check your listing. If it is okay you are asked if you want to save the machine code.

All the addresses needed for reference are printed on screen and you are advised to keep a note of them for use with the machine code later. You are then given the option of loading and playing a tune.

To use the machine code at some later time do as follows:

1) *Run (filename of machine code)

2) *Load (tune data file) at tune1adr (RETURN)

3) *Load (more tunes) at tune2adr, tune3adr etc.

4) *Load (envelope file) 8CO

Now any of the tunes can be played thus:

5) %switch - x (x tune number)

Call & changetune

Note: Break does not destroy the routine.

Steps five and six will get it going again.

From a machine code program of your own try the following code:

LDA fx:STA switch:JSR changetune

The 'changetune' routine immediately stops the music playing and starts playing the new tune selected.

It wouldn't be difficult to add more tunes; just duplicate the 'music3' routine which goes from line 2200 to 2250, using 'music(x)' Between lines 2250 and 2260. Then expand the part of changetune

which selects which tune address will be put into the working variable 'tuneadr'.

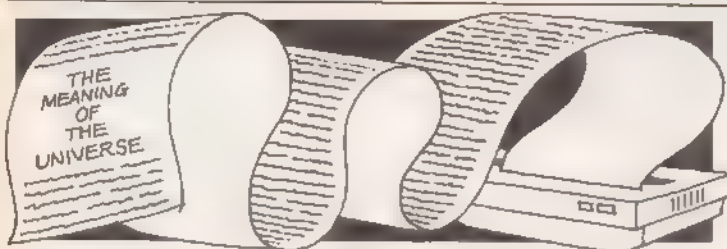
After CMP &3:BEQ music3 at line 1890 put 1891 CMP &(x):BEQ music(x) 1892 CMP &(x):BEQ music(x) etc. Don't lose line 1900(BNE finish) as it is an error trap. If you do any of the above you can renumber the program afterwards.

Finally, I've given you a checksum (32653). If your assembler is exactly as written you should get that number. If not there is a mistake somewhere.

When it is fully debugged you can start changing addresses for tunes and machine code, etc. You will get a different checksum (so make the appropriate change in line 240 where it is checked) then, but provided you don't do anything silly it will still work.

The whole suite of programs can be obtained from me at £10 for cassettes, £11.50 for five inch discs or £15 for three inch. Write to me at 323 North Circular Rd, London N13.

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RANDOM WORDS

by Richard Hoptroff

The ravenous poet didn't like being hairy when their coffee percolator crucified the massive glass of water but the kitten suddenly searched in vain for a brick. Then, the bolt of lightning stole the three-legged parrot but Mrs Thatcher frantically smelled the electronic kitchen sink. He

created the glass of water. A primeval lump slowly but with the stupid, red striped poet - but then, why not?

Back to reality

Like the Infinite Number of Monkeys theory, if a computer was made to print out an awful lot of random letters, it

would eventually produce the script for Shakespeare's *Hamlet*. This is an adaptation of such a program that churns out very long, random stories. They lack a plot, perhaps, but often turn out to be very, very funny.

Next week, the program notes plus the remainder of the listing.

```

10 Ltn=34:Snn=10:anf=0:qtf=0:Two=1:phf=0
15 RANDOMISE
20 RESTORE
40 NCj=8:NSj=7:NPj=8:NNb=2:NNn=52:NVb=43:NAj=46:NCu=5:NAv=8:NQt=1
5:Nph=7:Nwy=4
60 DIM c$(NCj,16),S$(NSj,30),P$(NPj,12),Nb$(NNb,6),Nn$(NNn,46)
,Vb$(NVb,44),A$(NAj,42),C$(NCu,20),Av$(NAv,30),Qt$(NQt,60),Ph$(
Nph,54),Ny$(Nwy,64)
80 FOR n=0 TO NCj:READ c$(n)
100 FOR n=0 TO NSj:READ S$(n)
120 FOR n=0 TO NPj:READ P$(n)
140 FOR n=0 TO NNb:READ Nb$(n)
160 FOR n=0 TO NNn:READ Nn$(n)
180 FOR n=0 TO NVb:READ Vb$(n)
200 FOR n=0 TO NAj:READ A$(n)
220 FOR n=0 TO NCu:READ C$(n)
230 FOR n=0 TO NAV:READ Av$(n)
240 FOR n=0 TO NQt:READ Qt$(n)
250 FOR n=0 TO Nph:READ Ph$(n)
251 FOR n=0 TO Nwy:READ Ny$(n)
260 Title$="Sargon the Demented"
280 REMark CLOSE #1:OPEN #1,ser1
300 WIDTH #
500 REPeat Paragraph
520 Snt=RND(10)+RND(10)
540 Sentence :IF INKEY$(0)<>"":EXIT Paragraph
570 END REPEAT Paragraph
580 DEFINE PROCEDURE Sentence
600 Cpf=1:cjf=0
610 IF RND(6)=6:GO TO 740
620 IF RND(5)=1:Comment:Cpf=0
640 Two=1:Noun:Cpf=0
660 Verb
680 IF Two=2:Noun
700 IF cjf=1:cjf=0:GO TO 640
710 phf=0:qtf=0:IF RND(10)=1:qtf=1:GO TO 721
720 RETURN
721 Tp=RND(NQt):qtf=1:Tap$="" & Qt$(Tp):IF Tp>Snn:Tap$=Tap$ & "
",:PRINT !Tap$:!GO TO 729
722 IF Tap$(LEN(Tap$)-1) TO=" "a":Tap$=Tap$! & (LEN(Tap$)-2):
anf=1
723 PRINT !Tap$!
725 Two=1:qtf=1:Noun
729 Two=1:qtf=0:Noun:PRINT !"said to":Two=2:Noun
730 IF cjf=1:cjf=0:GO TO 640
735 RETURN
740 Cpf=1:Two=1:phf=1:Noun
750 PRINT !Ph$(RND(Nph)):!IF RND(9)=5:PRINT !"a bit":!GO TO 760
755 IF RND(8)=4:PRINT !"half"!
760 Finish:Tap$=Aj$(RND(NAj)) & fins:PRINT !Tap$!
770 IF cjf=1:cjf=0:GO TO 640
780 END DEFINE
790 DEFINE PROCEDURE Comment
800 Caps$(C$(RND(NCu))):ans$=anf & ",":PRINT !ans$!
820 END DEFINE
840 DEFINE PROCEDURE Noun
845 IF qtf=1:GO TO 970
850 IF Two=2 OR phf=1:GO TO 880
857 IF RND(1) < 12:10:PRINT !Title$:!RETURN
860 IF RND(5)<3 :Caps$(S$(RND(NSj))):PRINT !ans$:!RETURN
880 IF RND(6)<6:Numb:GO TO 970
900 IF RND(5)<4
920 Numb:Tap$=Nn$(RND(NNn)) & "s":An(Tap$)
940 ELSE Caps$(P$(RND(NPj))):PRINT !ans$!
960 END IF
970 IF RND(5)>2 :GO TO 1065
980 REPEAT Adj
1000 Tap$=Aj$(RND(NAj))
1020 IF RND(10)>1:An(Tap$):EXIT Adj
1040 Tap$=Tap$ & ",":An(Tap$)
1060 END REPEAT Adj
1065 IF qtf=1:Tap$=Nn$(RND(NNn)) & "s":An(Tap$):RETURN
1070 IF Two=2:Finish:Tap$=Nn$(RND(NNn)) & fins:An(Tap$):RETURN
1080 An(Nn$(RND(NNn)))
1100 END DEFINE
1110 DEFINE PROCEDURE Verb
1120 IF RND(5)>2 :PRINT !Av$(RND(NAV))!
1130 Two=2:(p=RND(NVb)):IF Tp>Ltn :Finish:Two=1:Tap$=Vb$(Tp) & fin
s:PRINT !Tap$:!RETURN
1140 PRINT !Vb$(Tp)!
1150 END DEFINE
1160 DEFINE PROCEDURE Finish
1170 IF RND(35)=1:fins$="":RETURN
1175 cjf=1
1180 IF RND(44)=1:fins$="s":RETURN
1190 IF RND(43)=1:fins$="t":RETURN
1200 IF RND(3)=1:fins$=" " & c$(RND(NCj)):RETURN
1205 cjf=0:IF RND(10)=7 :fins$=Ny$(RND(Nwy)):RETURN

```




Name: Roy Carter

Chief programmer for Gargoyle Games

I began in 1970 as a programmer working for a business firm on the ICL 1901 – it was called a mainframe because it had six E. I learnt programming via night classes, studying Fortran at Dudley Tech then I started to use Plan – that was the first Assembly language I worked with and really it was the basis of all my other programming. Assembly languages are all pretty much the same except for matters of detail.

I write all the programs for Gargoyle on CP/M machines using the Microsoft



M80 Assembler, I'm also impressed with **Prospero Pascal** which I'll start using for programming ■ it becomes practical.

There are other programmers I admire, no particular names though, I like much of what Ultimate's done until the more recent stuff and Denton Designs has been consistently good. Really it's not a case of technical cleverness so much as good ideas - there are any number of programming teams who could have written, in a purely coding sense, games like *Knights Lore*, but it took Ultimate to come up with the ideas.

In my own programming I think the biggest achievement so far has been to move large animated objects around smoothly and at speed. I don't think anyone has equalled the animation of *Tir Na Nog* yet. My greatest programming challenge involves artificial intelligence and expert systems. It's a subject that has interested me for ages and I've been to a number of seminars on the subject. ■ AI

I'd like to create program so realistic it would be like talking to a real person.

NAME: Roy Carter

AGE: 32

FAVOURITE GAMES:

Рассказ

Sorcery (Virgin's Amstrad version)
Knight Lore

I liked the original *Game of Life* as well.

FAVOURITE MACHINES:

I'd say the Spectrum for games. For those people who want to do some programming (and most never do) I'd rate the Amstrad highly.

SOFTOGRAPHY:

Ad Astra, Tir Na Nog, Das Darsch, Marsport, Swevo's World and a whole load of business programs.

HOBBIES:

I read a lot mainly Science Fiction, particularly Jeff Vance, Asimov, Poel Anderson and Piers Anthony. I've also been reading quite a bit of Agatha Christie recently, although I'd rather you didn't mention that.

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140.00	7.75				10.00	7.80	7.80
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160.00	8.25				10.00	7.80	7.80
170.00	8.50				10.00	7.80	7.80
180.00	8.75				10.00	7.80	7.80
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320.00	12.25				10.00	7.80	7.80
330.00	12.50				10.00	7.80	7.80
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01-883 7996 (ansaphone, enquiries welcome)

Character Set on Spectrum

by G Wearmouth

This program is short, but interesting. It takes about one minute to design a character font based on the Spectrum's original, but thicker. The listing was made after the program was run, and I think you'll agree it's very legible.

```

1 REM ANY SPECTRUM
2 REM THIS PROGRAM CREATES, AT
ADDRESS 0, AN EMPHASISED VERSION
OF THE ROM CHARACTER FONT.
3 REM THE CHARACTER IS PRINTED AT
21 AND THICKENED (LINE 80).
4 REM LINE 30 TRANSFERS THE SCREEN -
BYTES TO ADDRESS 0.
5 REM DURATION : 1 MINUTE
6 REM
7 REM
8 REM
9 CLEAR 31743 LET a=31744
20 FOR i=32 TO 127

```

```

30 PRINT AT 21,0,CHR$ i
40 FOR y=7 TO 0 STEP -1
50 FOR x=6 TO 0 STEP -1
60 IF POINT (x,y) THEN PLOT x+
1,y
70 NEXT x
80 POKE a,PEEK (22432-255+i)
90 LET a=a+1
100 NEXT y
110 NEXT i
120 POKE 23607,123
130 BORDER 1: PAPER 1: INK 6
140 LIST

```

```

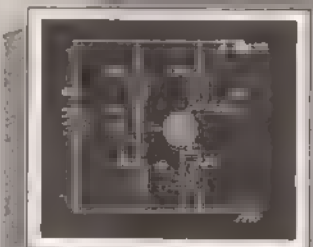
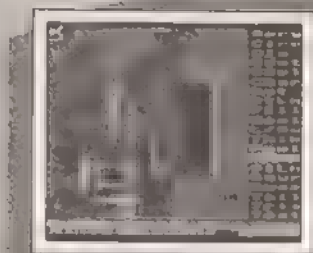
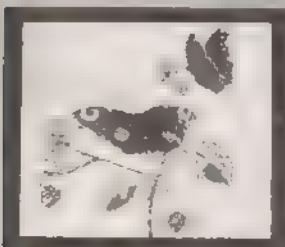
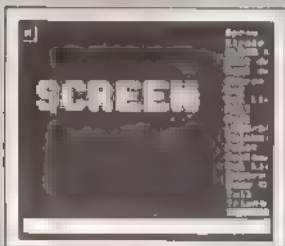
10 * *****
20 * Three Dimensional Sine Wave.
30 *
40 * Written By M.J.Evans. for PCW.
50 *
60 * *****
70 *
80 DEFINT x,y,s,m
90 CLEAR:DIM t(640):CLS:MODE 1:INK 1,Z6:PEN 1:PAPER 0:INK 2,20:INK 3,6:INK 0,0:
ORDER 0:MODE 1:INPUT "Mode (1 or 2)";m
100 IF m=1 OR m=2 THEN MODE m:GOTO 110
110 INPUT "Sine Addition (0-360)";a51:;s
120 INPUT "Size of humps (50)";s1:INPUT "Amount of humps (3)";t(1):t(2):t(3):t(4):t(5):t(6):t(7):t(8):t(9):t(10):t(11):t(12):t(13):t(14):t(15):t(16):t(17):t(18):t(19):t(20):t(21):t(22):t(23):t(24):t(25):t(26):t(27):t(28):t(29):t(30):t(31):t(32):t(33):t(34):t(35):t(36):t(37):t(38):t(39):t(40):t(41):t(42):t(43):t(44):t(45):t(46):t(47):t(48):t(49):t(50):t(51):t(52):t(53):t(54):t(55):t(56):t(57):t(58):t(59):t(60):t(61):t(62):t(63):t(64):t(65):t(66):t(67):t(68):t(69):t(70):t(71):t(72):t(73):t(74):t(75):t(76):t(77):t(78):t(79):t(80):t(81):t(82):t(83):t(84):t(85):t(86):t(87):t(88):t(89):t(90):t(91):t(92):t(93):t(94):t(95):t(96):t(97):t(98):t(99):t(100):t(101):t(102):t(103):t(104):t(105):t(106):t(107):t(108):t(109):t(110):t(111):t(112):t(113):t(114):t(115):t(116):t(117):t(118):t(119):t(120):t(121):t(122):t(123):t(124):t(125):t(126):t(127):t(128):t(129):t(130):t(131):t(132):t(133):t(134):t(135):t(136):t(137):t(138):t(139):t(140):t(141):t(142):t(143):t(144):t(145):t(146):t(147):t(148):t(149):t(150):t(151):t(152):t(153):t(154):t(155):t(156):t(157):t(158):t(159):t(160):t(161):t(162):t(163):t(164):t(165):t(166):t(167):t(168):t(169):t(170):t(171):t(172):t(173):t(174):t(175):t(176):t(177):t(178):t(179):t(180):t(181):t(182):t(183):t(184):t(185):t(186):t(187):t(188):t(189):t(190):t(191):t(192):t(193):t(194):t(195):t(196):t(197):t(198):t(199):t(200):t(201):t(202):t(203):t(204):t(205):t(206):t(207):t(208):t(209):t(210):t(211):t(212):t(213):t(214):t(215):t(216):t(217):t(218):t(219):t(220):t(221):t(222):t(223):t(224):t(225):t(226):t(227):t(228):t(229):t(230):t(231):t(232):t(233):t(234):t(235):t(236):t(237):t(238):t(239):t(240):t(241):t(242):t(243):t(244):t(245):t(246):t(247):t(248):t(249):t(250):t(251):t(252):t(253):t(254):t(255):t(256):t(257):t(258):t(259):t(260):t(261):t(262):t(263):t(264):t(265):t(266):t(267):t(268):t(269):t(270):t(271):t(272):t(273):t(274):t(275):t(276):t(277):t(278):t(279):t(280):t(281):t(282):t(283):t(284):t(285):t(286):t(287):t(288):t(289):t(290):t(291):t(292):t(293):t(294):t(295):t(296):t(297):t(298):t(299):t(300):t(301):t(302):t(303):t(304):t(305):t(306):t(307):t(308):t(309):t(310):t(311):t(312):t(313):t(314):t(315):t(316):t(317):t(318):t(319):t(320):t(321):t(322):t(323):t(324):t(325):t(326):t(327):t(328):t(329):t(330):t(331):t(332):t(333):t(334):t(335):t(336):t(337):t(338):t(339):t(340):t(341):t(342):t(343):t(344):t(345):t(346):t(347):t(348):t(349):t(350):t(351):t(352):t(353):t(354):t(355):t(356):t(357):t(358):t(359):t(360):t(361):t(362):t(363):t(364):t(365):t(366):t(367):t(368):t(369):t(370):t(371):t(372):t(373):t(374):t(375):t(376):t(377):t(378):t(379):t(380):t(381):t(382):t(383):t(384):t(385):t(386):t(387):t(388):t(389):t(390):t(391):t(392):t(393):t(394):t(395):t(396):t(397):t(398):t(399):t(400):t(401):t(402):t(403):t(404):t(405):t(406):t(407):t(408):t(409):t(410):t(411):t(412):t(413):t(414):t(415):t(416):t(417):t(418):t(419):t(420):t(421):t(422):t(423):t(424):t(425):t(426):t(427):t(428):t(429):t(430):t(431):t(432):t(433):t(434):t(435):t(436):t(437):t(438):t(439):t(440):t(441):t(442):t(443):t(444):t(445):t(446):t(447):t(448):t(449):t(450):t(451):t(452):t(453):t(454):t(455):t(456):t(457):t(458):t(459):t(460):t(461):t(462):t(463):t(464):t(465):t(466):t(467):t(468):t(469):t(470):t(471):t(472):t(473):t(474):t(475):t(476):t(477):t(478):t(479):t(480):t(481):t(482):t(483):t(484):t(485):t(486):t(487):t(488):t(489):t(490):t(491):t(492):t(493):t(494):t(495):t(496):t(497):t(498):t(499):t(500):t(501):t(502):t(503):t(504):t(505):t(506):t(507):t(508):t(509):t(510):t(511):t(512):t(513):t(514):t(515):t(516):t(517):t(518):t(519):t(520):t(521):t(522):t(523):t(524):t(525):t(526):t(527):t(528):t(529):t(530):t(531):t(532):t(533):t(534):t(535):t(536):t(537):t(538):t(539):t(540):t(541):t(542):t(543):t(544):t(545):t(546):t(547):t(548):t(549):t(550):t(551):t(552):t(553):t(554):t(555):t(556):t(557):t(558):t(559):t(560):t(561):t(562):t(563):t(564):t(565):t(566):t(567):t(568):t(569):t(570):t(571):t(572):t(573):t(574):t(575):t(576):t(577):t(578):t(579):t(580):t(581):t(582):t(583):t(584):t(585):t(586):t(587):t(588):t(589):t(590):t(591):t(592):t(593):t(594):t(595):t(596):t(597):t(598):t(599):t(600):t(601):t(602):t(603):t(604):t(605):t(606):t(607):t(608):t(609):t(610):t(611):t(612):t(613):t(614):t(615):t(616):t(617):t(618):t(619):t(620):t(621):t(622):t(623):t(624):t(625):t(626):t(627):t(628):t(629):t(630):t(631):t(632):t(633):t(634):t(635):t(636):t(637):t(638):t(639):t(640):t(641):t(642):t(643):t(644):t(645):t(646):t(647):t(648):t(649):t(650):t(651):t(652):t(653):t(654):t(655):t(656):t(657):t(658):t(659):t(660):t(661):t(662):t(663):t(664):t(665):t(666):t(667):t(668):t(669):t(670):t(671):t(672):t(673):t(674):t(675):t(676):t(677):t(678):t(679):t(680):t(681):t(682):t(683):t(684):t(685):t(686):t(687):t(688):t(689):t(690):t(691):t(692):t(693):t(694):t(695):t(696):t(697):t(698):t(699):t(700):t(701):t(702):t(703):t(704):t(705):t(706):t(707):t(708):t(709):t(710):t(711):t(712):t(713):t(714):t(715):t(716):t(717):t(718):t(719):t(720):t(721):t(722):t(723):t(724):t(725):t(726):t(727):t(728):t(729):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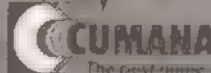
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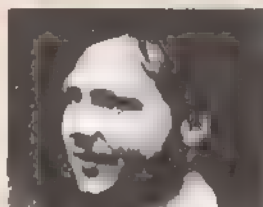
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Chris Wood of Chameleon Software has written a justifiably cross letter to say that Nicholas Mew's Amstrad Jet Set Willy program in issue 41 was plagiarised from a routine he wrote for Amstrad User. This has been confirmed by a letter from 'illegible' of Leeds who points out that the routine doesn't work in exactly the same way that the one in AU doesn't.

Apologies to Chris Wood and all at AU for this.

It is difficult to claim 'ownership' of things such as pokes and hints which are really public domain, but what is inexcusable is that an entire program such as Chris's, which has had hours of work put into it, is ripped off in this way.

Ill-fated

As for the fact of it not working, the routine arrived just in time to get squeezed into our JSW week and since it came as a listing on tape, it was just printed out into the column. Can you imagine someone going to the trouble of typing a program out from a magazine, changing the copyright names, etc, and not even trying to see if it works? If anyone else has such a routine handy, do me a favour and send it to someone else.

For 'illegible' of Leeds who complains that he is still looking for an Amstrad JSW routine that works, can I remind you that we printed one weeks before Nicholas's ill-fated letter arrived. Check your back issues.

The Spectrum version of JSW 3 pokes, issue 41, are also ill-fated in that there was a typo - the first number on line 111 should be 221 rather than 211. Randomize Usr 28672 to start.

One thing that has been printed in other magazines is the following tip for Graham Gooch's Test Cricket on the 64, but Audiogenic specifically asked that we try and spread it to as many people as possible.

On the ropes

It is a routine to let you save a team you have created to tape or disc. Load and run the Select program and enter the teams. At the end when you are returned to Basic, Poke 43,0: Poke 44, 192: Poke 45,40: Poke 46,194: Poke 56,200: CLR: Save "TEAMS" (add ",8" if using disc). When saved turn the computer off and on again. Enter Load "TEAMS",1, or Load "TEAMS",8,1. When the teams have loaded type New

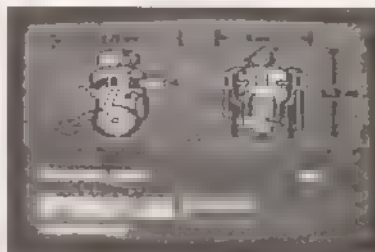
needs emerald scarab. That's all for now in case we spoil the game. Very careful mapping is essential as the unit cursor disappears towards the end.

By the way, the location of the test site is. . . \$%&%'&) ('n- -) - system malfunction! Logoff complete. Oh well, perhaps next week.

Actually Hacker is a disappointment; only a little way into the game it loses almost all resemblance to what it is supposed to be, ie, an unknown computer system. The older game, System 15000 was much better in that sense. Let's have some comments and tips please, it

need are some really useful tips to get people started.

Dominic Wake of Farnham finished Starquake on November 3rd with 225,395 and 52% and with a surplus of 20



Hacker from Activision

lives. Here are some teleport names to start you off. . . Verox, Ramix, Kyzia, Delta, Soniq, Ultra, Amiga. As for the one near the cave, there is a clue in the gem itself. Dominic recommends Starquake, but says it is too expensive.

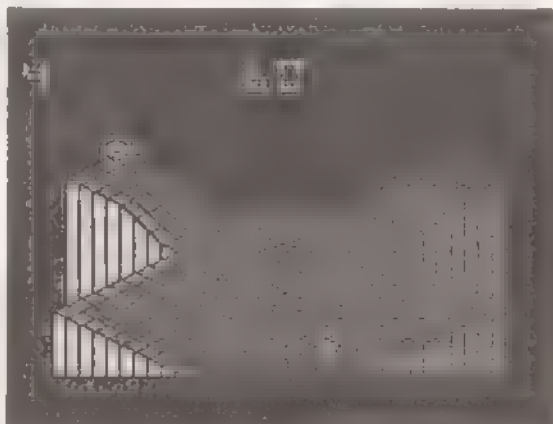
Kevin Young, writing about the Amstrad version of Exploding Fist, also complains about paying a "ridiculous £9.95". Kevin took his game back to Smiths, disgusted by the lack of music or changing backdrops on this version.

Renaissance

My own feeling is that the games are pricey, but I am particularly impressed by the recent renaissance of Melbourne House arcade games and I rate Starion, Fist and Gyroscope among the few releases that are really worth the money. However, I do agree that the poor deal Amstrad owners got deserves plenty of complaining letters. It's still a brilliant game and we will try and find room for some tips soon.

Finally good news has just come in from Chris Allen who has managed to write a compact routine for getting infinite lives in Fairlight (you may remember it has one of the most convoluted loaders ever seen). Don't miss next week's issue for a copy of this! The other good news is that Mr A G Solomon of Bridgend has finished Fairlight and has sent in the complete solution, which I hope we will find space to print soon.

Tony Kendle



Gyroscope new from Melbourne House

and load the main game.

Congratulations to Damian Craddock for finishing Barry McGuigan's Boxing. His tip is to make your boxer a bulldog which traps the other fighter on the ropes giving you free pot shots at his head. If he covers up, hit his body. Anyone who wants tips on other C64 games, especially Spy v Spy II, Beach Head, Raid, Hunchback, Matrix, can write to Damian at 8 Tennyson Road, Bedford, MK40 3SB (enclose an SAE).

Congratulations to Brian Thompson of Beckenham for finishing Hacker; here are a few tips - Switzerland needs cash, England needs camera, Greece needs 'Tut', Egypt needs chronometer, India

should be just the thing for readers of this column.

Brian has also scored 45% on Marsport, ups badly needed! Gargoyles are releasing their brilliant games at a much faster rate than we can solve the things.

Unique quality

Incidentally can anyone help on the new Sandy White game, I of the Mask? In case you haven't seen it it has the most fantastic graphics to date on the Spectrum, of a unique and atmospheric quality that puts the author firmly into the top league of Spectrum programmers. However, the general opinion seems

Tony Bridge's Adventure Corner



Password

One of the best-selling Quill'd adventures, and deservedly so, is *Bored of the Rings*, out of Silversoft by Delta 4. It is not particularly tough or brain-teasing, although of course the program will give you plenty to think about - but, like other Delta 4 adventures, the scenario is well-written and consistently witty.

Those of you who have enjoyed *Bored* should also take a look at the earlier programs from this company, *Quest for the Holy Joystick* and the sequel *Return of the Holy Joystick*, two brilliant examples of how far *The Quill* can be stretched. The latest adventure is *Robin of Sherlock*, released as you read these words.

The reason for me mentioning *Bored* now is to offer some help. Soon after my review of the game, back in May of this year, I mentioned a reader who was stuck near the start and asking for a clue. This was only a few moves into the adventure, and actually one of the very first problems, so I should have been able to answer it. For weeks after, my mailbag was full of derisive letters questioning my adventuring ability. I thought that I had made it clear in my review that I had actually worked through some of the latter stages, having been let in on the secret of

the passwords to the second and third parts.

But for anyone still trapped, like Ian Nicholls, by the Willow Tree, *Cry Help*, which Fordo will receive in the form of Tim Bumbadil, who rescues him.

I received just three letters which didn't carp on about my lack of expertise, one from John Wilson of Rochdale, who is an adventure of indefatigable stamina and resource, always willing to let me in on his hard-won knowledge, and the others from Nic Ford of 25 Canada Road, Cobham, Surrey KT11 2BB, and Mr R Atkins. He lives at 1, The Paddocks, Potton, Nr. Sandy, Beds SG19 2QD, and is a mine of information about the game and quite willing to help sort out problems.

Since then, however, my mailbag has been full of letters asking for help, and in fact *Bored* has figured more than almost any other adventure in this regard. Peter Martin of Cyprus was stuck in the Willow Tree but has since solved that problem, only to come up against the next one, that posed by the body-poppin' Barrow Wight. If you wait around long enough, Peter, he will eventually give you a clue which will come in handy at a later stage. Then go across the Downs again, West West North and East to the Inn.

Scene-setting

One of the trademarks of *The Quill* is the way in which pictures are drawn only on your first visit to a location, and Mark Bennison draws our attention to the fact that this can be used in solving mazes - just find those places in which a graphic appears, thus enabling you to draw a map. This is general informa-

tion, though, as you will have a map at the maze in Part Two if you do things in the right order!

Part One is not too hard, being basically an exercise in scene-setting - all that must be done is a lot of hanging about. Two conditions have to be met in order to finish this section; you must ensure that Aragorn remains with you, and pick up the object mentioned by the Breakdancing Barrow Wight.

Plain sailing

I won't tell you where this is, it's not hidden, but you must have it and use it in the last location. If you get

- get this and examine it to give you a clue to the method of dealing with Fwankie, Vulture Club and the rest of them. After the maze, you will eventually end up in the de Lorean lands. If you've been typing help frantically throughout the adventure, it is here that you'll find location 17 and the clue that you've been waiting for - just remember good old hippy Tim and what he gave you!

As for Part Three, well, space doesn't permit more than just a brief mention of the problem that has been foxing a lot of people, that of opening the microwave. This is actually the final action, and you simply have to *Open Box* (after cutting the string with

What was Fordo to do?
*S
However, Fordo couldn't go in that direction.
Bimbo stood up on his chair at the far end of the tent. The noise quietened down to a dull roar.
"My fellow boggits", he began. "There was a chorus of betching from the fellow boggits. As much as I'd love to stay and annoy you, I can't. So goodbye!
There was a large explosion (which killed several of the guests) and when the smoke cleared, Bimbo was gone!
Fordo wandered outside.

Bored of the Rings

through the problem here (it's not too difficult), you'll be given the password to the next part.

Part two is, I think, much more interesting than the preceding part - the puzzles are more demanding, the responses from the program are more amusing and the graphics, too, are better. The first problem, however - how to get the map from the disreputable pixie - is plain sailing as long as one remembers one's adventuring history and uses the vending machine properly (*Examine*, as always, works wonders here). This should give you the wherewithal to gain the necessary map of the ubiquitous maze, which is not far away now.

Although you can indeed map the maze, the final exit doesn't exist without the pixie's map.

Somewhere in the maze you will come across a poster

the Magic Scissors) and then *Put Ring In Microwave*.

Bear in mind that there may be differences between the original version from Delta 4 and the later Silversoft release.

Upside down

I hope that I can return to *Bored of the Rings* at a later date. The problems are not massively difficult, but the way in which Fergus McNeill, the author, has conjured the atmosphere of Middle Earth, albeit a rather upside-down Middle Earth, almost disguises the limitations of *The Quill*. And is a joy to sit and play.

There are lots of things that can be done by way of light relief (try saying hello to the crows and wolves, or killing the Map Pixie), and the adventure is great entertainment.

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Bubbling Under

Gyroscope/Spectrum (Melbourne House); Computer Run (5)/Spectrum (Bean Jolly); Scarabeus/C64 (Aristasoft); Tau Ceti/Spectrum (CRL); Warlock/C64/Spectrum (Warmaster); Inhotop/C64 (Ultimate); I of the Mask/Spectrum (Electric Dreams); Spike/Spectrum (Firebird); Battle of Britain/Amstrad (PSS).

All figures compiled by Gallup/Microscope

Top Twenty

1	(1) Elite (Spectrum/C64/BBC)	Acornsoft/Firebird
2	(4) Formula One Simulator (Spectrum/C64)	Mastertronic
3	(7) They Sold a Million (Spectrum/Amstrad)	Hit Squad
4	(2) Winter Games (C64)	US Gold
5	(9) Finders Keepers (Spectrum/C64/Amstrad)	Mastertronic
6	(6) Way of the Exploding Fist (Spectrum/C64/Amstrad)	Melbourne House
7	(-) Robin of the Wood (Spectrum/C64)	Odin
8	(8) Ten Computer Hits (Various)	Bean Jolly
9	(15) Action Biker (Spectrum/C64)	Mastertronic
10	(3) Monty on the Run (Spectrum/C64/Amstrad)	Gremlin Graphics
11	(-) Beach Head II (Spectrum/C64/Amstrad)	Access/US Gold
12	(10) Frank Bruno's Boxing (Spectrum/C64)	Elite
13	(5) Fighting Warrior (Spectrum/C64/Amstrad)	Melbourne House
14	(-) Who Dares Wins II (Spectrum/C64/Amstrad)	Alligata
15	(-) International Karate (Spectrum)	System 3
16	(14) Back to Skool (Spectrum)	Microsphere
17	(12) Impossible Mission (Spectrum/C64)	Epyx/US Gold
18	(20) Saboteur (Spectrum)	Dorell
19	(13) BMX Racers (Spectrum/C64)	Mastertronic
20	(18) Daley Thompson's Super Test (Spectrum)	Ocean

Figures compiled by Gallup/Microscope

Readers' Chart No 52

1	(1) Way of the Exploding Fist (Spectrum/C64/Amstrad/Melbourne House)	The Edge
2	(2) Fairlight (Spectrum)	Imagine
3	(3) Hypersports (Spectrum/C64)	Level 9
4	(4) Red Moon (Spectrum/C64/Amstrad/BBC/Electron)	Gremlin Graphics
5	(5) Monty on the Run (Spectrum/C64)	Ultimate
6	(9) Nightshade (Spectrum)	Beyond
7	(-) Spy vs Spy (Spectrum/C64)	Elite
8	(8) Frank Bruno's Boxing (Spectrum/C64/Amstrad)	Mastertronic
9	(-) Nonteraqueous (Spectrum/Amstrad)	Vortex
10	(-) Highway Encounter (Spectrum/Amstrad)	

Winning Phrase No 52: "Fairy lights on the tree soon" from R. Robertson of Mossend, Lanarkshire who wins £25. Honourable mentions for "ELT... sign another lot of trips?" from J. Burnett of Camberley and "The art of PR - lost by A-par-d?" from Philip Arkley of Accrington, Lancs.

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You can still vote in the chart without making up a slogan - but you won't be in with a chance of winning the prize.

All you have to do is fill in the form below (or copy it out if you don't want to damage your magazine) and send it off to: Top 10, Popular Computing Weekly, 12-13 Little Newport Street, London WC2H 7PP.

Voting for Week 54 closes at 2pm on Wednesday December 4 1985. Entries received after that time will not be eligible for inclusion in that week's voting. The judges' decision is final. Only one entry per individual per week will be allowed.

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Address	1
.....	2
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My phrase is:	



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MONOPOLY	JAN 8	*		*	*	FEB 86
SCALEXTRIC	FEB 86		* †		JAN 22	
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SCRABBLE	<input type="checkbox"/>	<input type="checkbox"/>

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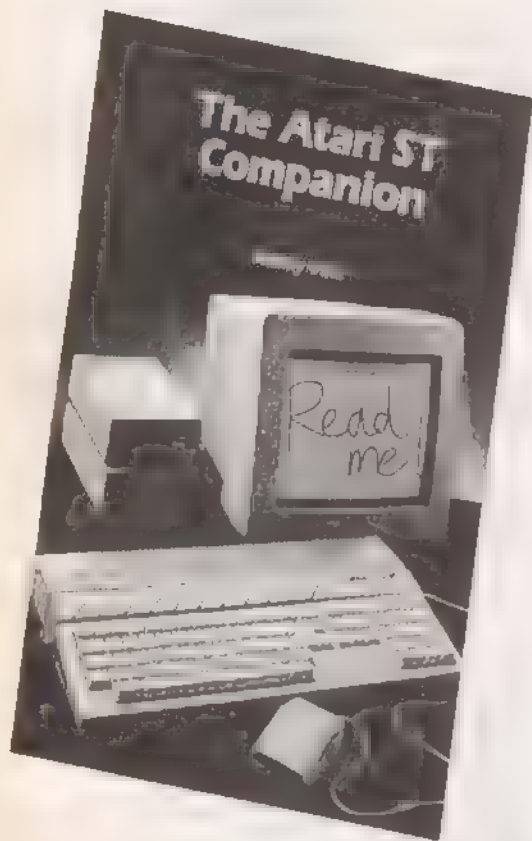
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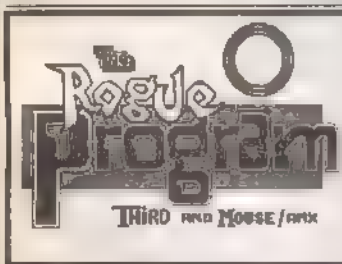
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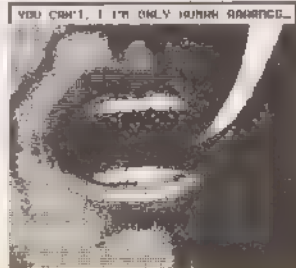
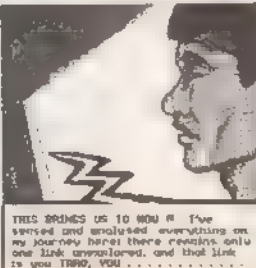
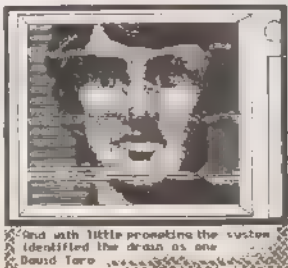
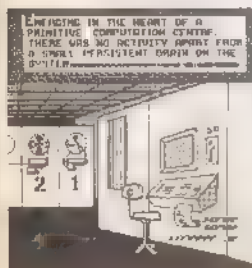
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The Rogue Program



The fragrant hit the surface in a blinding explosion of light; hardly disturbing the soil it had smashed into.



New Releases

COMMUNIST

Robin of the Wood from Odin Computer Graphics should not be confused with *Robin of Sherwood* by Adventure International. The latter is an adventure, the former - a multi screen Ultimate-style game.

Very pretty it is too, with finely detailed graphics and (on the Spectrum version) about the best sound effects you could reasonably expect. The central figures are neatly animated - watch out, in particular, for the way Robin smashes baddies over the head with his stave... vicious stuff.

The plot basically has you as Robin hunting around the wood for quivers of arrows and other objects which will help you gain your place at the archery tournament where lots of really nice things happen to the winner. Getting there involves witches that look rather like Valeria from the Addams family and an old Ent, who is in charge of three magic ar-

rows. I always thought an old Ent was standard showbusiness shorthand for someone forced through ill luck to do the summer season at Rhyd, but apparently this one is a sort of mystic communist who redistributes cash to the poor. He wants paying, anyway.

Controls are kept to a minimum, and it is possible to play the game with just a joystick, though it's a while before you realise there is no command to pick up and drop things and all those processes happen automatically. Playing the game for a while I began to find it a little slow, but that may simply be a matter of not having succeeded very far into it. Anyway it's good to look at and gets my vote for the greenest game yet released.

Program *Robin of the Wood*
Price £8.95
Micro Commodore/
Spectrum
Supplier Odin Computer
Graphics
The Podium
Steers House
Canning Place
Liverpool
Merseyside L18HN

LARGE SPRITES

Blast Buggy is the latest game from Shadow Games - a company that specialises in producing arcade games for the QL, an almost solitary and I'd have thought soul destroying occupation.

Though *Blast Buggy* is not without virtues, big colourful graphics amongst them, it suf-

Pick of the week

ORIGINAL TOUCHES

What to say about *Sweevo's World*? The game raises a number of problems chief amongst which is that the whole look of the game and much of the game play is derived from titles like *Knight Lore* and *Alien 8*.

I can hear the cries of rip-off beginning already.

However, just some, a very few, games actually equalled and even surpassed *Manic Miner* despite being derived from its basic ideas. So I think *Sweevo's World* surpasses both the Ultimate games from which it develops many of its ideas.

The game is written by Gargoyle, highly respected for their original style from *Tir Na Nog* to *Marsport* and to a certain extent it's a shame that this latest release should be less original. The game is, nevertheless, extremely entertaining and technically very proficient indeed.

What I like about it is the way the surreal irreverent and indeed determinedly irrelevant nature of the plot is maintained in genuinely funny animation, gameplay scoring and background settings.

Sweevo is a bit like *ET* in a way. Its chief characteris-



tic is a walk and facial expression that suggests incompetence. In fact *Sweevo's* idiocy is the reason for being given the task of clearing up the genic mutations on a planet that looks a little like something Terry Gilliam might have dreamed up.

One ton blocks have a habit of falling, giant pineapples litter the rooms, innocent floors are suddenly penetrated by giant fingers and a goose races madly around waiting for you to say Boo.

Viewpoint is à la Ultimate, as though looking above each room high in

fers from a screen so flickery as it scrolls along I found it close to unplayable. I take it this is because of the consid-

erable screen detail which has to be shunted about at speed. It doesn't work.

The game is hardly origi-

This Week

Program	Type	Micro	Price	Supplier	Wild West	Arc	Commodore 64	£12.85	Ariolasoft
Caves of Doom	Arc	Amstrad	£1.99	Mastertronic	Mordon's Quest	Ad	Enterprise	£7.95	Enterprise
Renegade	Arc	Amstrad	£6.95	Kuma	Star Strike 30	Arc	Enterprise	£7.95	Enterprise
Wrigger	Arc	Amstrad	£11.95	Romanic Robot	Steve Davis Snooker	S	QL	£14.95	CDS
Big League Soccer	S	Amstrad	£2.50	A Whitlock	Q Calc	UI	QL	£9.95	Psientific
Yie Ar Kung Fu	S	Amstrad	£7.95	Imagine	Robin of Sherwood	Ad	Spectrum	£7.95	Silver Soft
Yie Ar Kung Fu	S	BBC	£7.95	Imagine	321	Arc	Spectrum	£9.95	TBD
Death Race	Arc	C16	£2.99	Atlantis	Brainstorm	Arc	Spectrum	£1.99	Bubble Bus
Formula One Simulat	Arc	C16	£1.99	Mastertronic	Caves of Doom	Arc	Spectrum	£1.99	Mastertronic
Tutti Frutti	Arc	C16	£1.99	Mastertronic	Hypa Raid	Arc	Spectrum	£1.99	Atlantis
321	Arc	Commodore 64	£9.95	TBD	Rockman	Arc	Spectrum	£1.99	Mastertronic
Friday the 13th	Arc	Commodore 64	£8.95	Domark	Soul of Robot	Arc	Spectrum	£1.99	Mastertronic
The Human Race	Arc	Commodore 64	£1.99	Mastertronic	Temple Tower	Arc	Spectrum	£1.99	Atlantis
					Yie Ar Kung Fu	Arc	Spectrum	£7.95	Imagine

one corner. Movement is therefore diagonally across the screen.

Like the Ultimate games, part of the fun is simply getting through some of the rooms. It requires the same sort of judgement, timing and use of likely looking objects that *Knightlore* had, but rings some changes with rising platforms, L Plates and sudden finger stabs.

The preproduction version I played didn't contain the large number of other animated characters promised for the game. If the relentlessly trudging goose is anything to go by we can expect something which equals or even surpasses Ultimate's cartoon quality robot figures.

The game is going to need a lot more play before all of its bizarre secrets are laid bare. For the moment I'd say I'm impressed. After the initial 'but this is just like Ultimate' reaction, I'm finding more and more original touches.

The chances are you'll love it.

Program *Sweevo's World*

Price £7.95

Micro Spectrum/
Amstrad

Supplier Gargoyle Games
74 King Street
Dudley
West Midlands

nal. *Blast Buggy* is a version of that arcade game variously titled *Moon Buggy*, *Lunar Buggy*, etc, which involves

moving a rover vehicle across the craggy surface of a lunar landscape.

The one virtue of the game is the large animated sprites. Other than that the flicker spoils the thing completely for me. Shadow Games deserve plenty of credit for putting out QL arcade games, however, and God knows there isn't much else around. But I think you'll only enjoy this if you've never played it before, haven't seen it running on many other, superficially humbler, micros and are desperate for something to play on your QL.

Program *Blast Buggy*

Price £12.99

Micro QL

Supplier Shadow Games
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57 VARIETIES

Brainstorm is a budget game from Bubble Bus and it's ev-



everything you can reasonably hope for from a cheap title. It's a question of spot the references in the plot to countless other games that have gone before: search the castle with your jetman, seek out various objects and destroy them, find keys to get through locked doors and watch out for the 57 varieties of animated sprite. So no originality whatsoever is the bad news.

The good news is that it's beautifully presented with nice big characters and detailed touches in the background to keep it interesting. A certain amount of brain is required in reasoning out what object is destroyed by what other object.

There's more than a couple of hours worth of wholesome destructive entertainment, well presented and lacking only originality for £1.99. That's fair enough.

Program *Brainstorm*

Price £1.99

Micro Spectrum

Supplier Bubble Bus
Software
87 High Street
Tonbridge
Kent
TN9 1RX

SNAKE STRIKE

Wild West is a disc-based graphic adventure from Ariolasoft. It has many virtues but they aren't of the sort that conventional text adventure fans would enjoy. The main point is that the input format is very restricted; at each stage there are only three options represented by little cartoon



figures with speech bubbles appearing above their heads.

What this means is that the game can't have the richness of puzzle found in the average text adventure. On the other hand, it features some really excellent graphics used in unusual ways. For example, in the opening section one wrongly made decision caused a snake to strike, this is presented in a series of 'frames' of action with the snake getting bigger and bigger - a little like the sort of technique used in movies.

Each section is relatively short and they are differentiated by repeated disc access; on the standard Commodore drive this is a pretty slow business and I found it irritating in the extreme. I think that, judging by the cute graphics and simple style of user input, this is really intended as a game for fairly young children, and as such it has lots to recommend it.

Program *Wild West*

Price £12.95

Micro Commodore

Supplier Ariolasoft
Asphalte House
Palace Street
London SW1E 5HS

This Week

Crazy Crazy	Arc	Vic20	£1.99	Mastertronic
Forbidden Tower	Arc	Vic20	£1.99	Atlantis
Royal Casino	S	Spectrum	£6.95	Mastertronic

Key: Ad - adventure S - strategy-simulation
Arc - arcade UI - Utility Ed - education

A Whitlock, 36 Old Quarry Close, Rubery, Birmingham, B45 9TU
Ariolasoft, Retail Atlantis, 19 Prebend Street, London N1 8PF 01-226 6703. Bubble Bus, 87 High Street, Tonbridge, Kent TN9 1RX

0732 355962. CDS, Silver House, Silver Street Doncaster Donark, 204 Worple Road, London SW20 8PN 01-947 5624. Enterprise, 31-37 Hoxton Street, London N1 6NJ 01-739 4282. Imagine, Imagine Software, 6 Central Street Manchester M2 5NS. Kuma, Kuma Computers, 12 Horshoe Park, Pangbourne, RG8 7JW, 07357 4335. Mastertronic, Park Lane 111 Park Road, London NW8 7JL, 01-402 3316. Psientific, 37 Collesmore Road, Hessle, North Humberside, HU13 9JQ, 0482 649187. Romantic Robot, 77 Dyne Road, London NW6 7DS, 01-625 9463. Silver Soft, Studio 70 Kings Yard, Carpenters Road, London E15 2HD 01-985 5514. TBD, Units 18-20, Rosevale Road, Parkhouse Industrial Estate, Newcastle under Lyme, 0782 620321



Back to the future

One of the inexorable realities of the chip industry is the constant erosion of cost per bit of semiconductor memory.

Dynamic Ram chips quadruple in size approximately every three years; 4K, 16K, 64K and now 256K, which is the current production standard. One megabit chips are waiting to go into mass production and prototype four megabit chips are working in the lab.

Over the last eighteen months the 256K bit chip has become the new standard and the price of the 64K chip has collapsed. The drastic reduction of cost of the 64K chip has made some computers much cheaper over the last year or so. The bigger the machine's memory the bigger the reduction, hence the QL halving in price.

The long term effect is that everyone will have a lot more memory.

The superb Apple Macintosh is a couple of years ahead of the average home computer in providing lots of memory. By looking at how all that memory is used in a Mac we can get an idea of what the next generation of home computers will be offering.

The Mac comes in two sizes, advertised as 128K bytes and the 512K bytes Fat Mac. (In fact this is incorrect because the Mac doesn't have any bytes at all, its 68000 processor works in 16-bit words. The Mac really has either 64K words or 256K words.) Either way you look at it the Mac has a lot of memory. Memory upgrades are available up to 4 megabytes (2 megawords) which really is a hell of a

lot of memory. The fact that this is all useable by one person takes some believing, but it is.

The first use is in helping to provide a user-friendly environment. This takes the form of windows, icons, pull-down menus and pointer (mouse). A further advance are the extensive help facilities commonly built into application programs. If you get stuck the computer tells you how to get unstuck.

Switcher is a program that allows several programs to live in the Mac at the same time. The user can switch between them at will, say from a word processor to an arcade game to a database.

A Ram disc is an area of memory set aside that acts as though it were a disc drive, but with virtually instant access. This is very convenient for repeated file handling and is already a feature of the Amstrad 8258.

A huge inconvenience of using a printer is waiting for it to finish before you can use the computer again. With lots of memory you can use a print spooler. The spooler software sends whatever is to be printed to a special area of memory whence it is delivered to the printer at the printer's speed. This leaves the computer free to get on with the next job.

Another sophisticated way it uses lots of memory is the cache. This is an area of memory that is empty when you start using the computer. As you work away it looks 'intelligently' at what you are accessing most frequently from the disk and holds it in Ram instead. This makes access virtually instantaneous and speeds up whatever it is you are doing. The contents of the cache are constantly changing as it up-dates itself to hold whatever it is you are using most.

These few examples from the Mac serve to whet the appetite.

As Ram prices continue to fall, though, home machines will soon be able to offer many of the same facilities.

And the memory will bring with it more intelligent and considerably easier to use software.

The micro will begin to be able to help you, rather than the other way around.

Bruce Everiss

Puzzle No 185

I have just returned from the Post Office with some stamps. From the information given, can you determine how many of each denomination I have?

- I bought stamps in three denominations: 13, 17 and 23 pence.
- The three values were coloured green, blue, and red (though not necessarily in that order).
- In all, I bought 100 stamps.
- I have at least one of each value.
- The total bill was for an exact number of pounds.

I'm afraid that this will not enable you to find the answer, but if I were to add that I spent as many pounds as I bought red stamps, you would be able to give me the solution.

Solution to Puzzle 180

The four smallest values are 278 degrees centigrade (827 deg.F.), 2345 deg.C. (4253 deg.F.), 4688 deg.C. (8465 deg.F.), and 10885 deg.C. (19603 deg.F.).

```
10 LET C=48
20 FOR I=1 TO 20
30 LET C=STR$(C)+LET F=STR$(F)
40 IF LEN(C)<LEN(F) THEN GOTO 100
50 FOR N=1 TO LEN(C)
60 D=MOD(C,N,1)
70 T=0
80 FOR M=1 TO LEN(F)
90 IF MID$(F,M,1)=D THEN GOTO 110
100 NEXT M
110 NEXT N
120 IF T=0 THEN GOTO 150
130 NEXT I
140 PRINT C
150 LET C=C+5
160 GOTO 20
```

The equation for converting degrees centigrade into degrees Fahrenheit is $F = C * 9/5 + 32$. As we are only interested in whole number values, we need only test centigrade values that are multiples of five. These are converted to their Fahrenheit equivalents in Line 30. To determine if each of the pair of values contains the same digits, each digit of the centigrade value is taken in turn and the Fahrenheit reading is scanned to detect any such value.

Winner of Puzzle 180

The winner is Bill Stanton of Avenue Court, St Albans, who will be receiving £10

Rules

The closing date for Puzzle 185 is December 25.

The Hackers



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
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